DENON

Hi-Fi Integrated Stereo Amplifier

SERVICE MANUAL

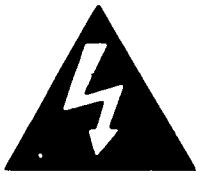
MODEL PMA-360

INTEGRATED STEREO AMPLIFIER

CONTENTS

OPERATING INSTRUCTIONS ..... 2~10
BLOCK AND LEVEL DIAGRAM 11
METHOD OF ADJUSTMENTS 11
REMOVAL OF EACH SECTION 12
SEMICONDUCTORS 13
PRINTED WIRING BOARD 13, 14
WIRING DIAGRAM 15
PRINTED WIRING BOARD PARTS LIST ..... 16~19
EXPLODED VIEW OF CHASSIS AND CABINET 20
PARTS LIST OF EXPLODED VIEW 21, 22
SCHEMATIC DIAGRAM 23

NIPPON COLUMBIA CO., LTD.



CAUTION

RISK OF ELECTRIC SHOCK

DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltge" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION
POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

SAFETY INSTRUCTIONS

1. Read Instructions – All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions – The safety and operating instructions should be retained for future reference.
3. Heed Warnings – All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions – All operating and use instructions should be followed.
5. Water and Moisture – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. Carts and Stands – The appliance should be used only with a cart or stand that is recommended by the manufacturer.

6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

7. Wall or Ceiling Mounting – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

10. Power Sources – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

11. Grounding or Polarization – The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.

12. Power-Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

13. Protective Attachment Plug – The appliance is equipped with an attachment plug having overload protection. This is a safety feature. See Instruction Manual for replacement or resetting of protective device. If replacement of the plug is required, be sure the service technician has used a replacement plug specified by the manufacturer that has the same overload protection as the original plug.

14. Cleaning – The appliance should be cleaned only as recommended by the manufacturer.

15. Power Lines – An outdoor antenna should be located away from power lines.

16. Outdoor Antenna Grounding – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70–1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.

17. Nonuse Periods – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

18. Object and Liquid Entry – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

19. Damage Requiring Service – The appliance should be serviced by qualified service personnel when:

    A. The power-supply cord or the plug has been damaged; or

    B. Objects have fallen, or liquid has been spilled into the appliance; or

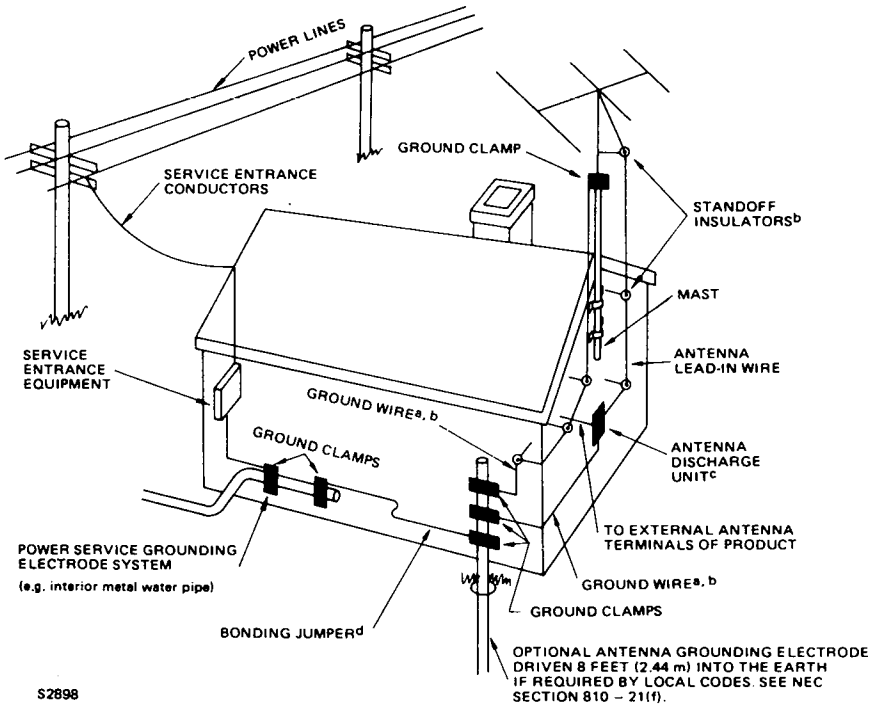
    C. The appliance has been exposed to rain; or

    D. The appliance does not appear to operate normally or exhibits a marked change in performance; or

    E. The appliance has been dropped, or the enclosure. damaged.

20. Servicing – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

FIGURE A
EXAMPLE OF ANTENNA GROUNDING ACCORDING TO NATIONAL ELECTRICAL CODE INSTRUCTIONS CONTAINED IN ARTICLE 810 – "RADIO AND TELEVISION EQUIPMENT"



[a] Use No. 10 AWG (5.3 mm^2) copper, No. 8 AWG (8.4 mm^2) aluminum, No. 17 AWG (1.0 mm^2) copper-clad steel or bronze wire, or larger, as a ground wire.

[b] Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4–6 feet (1.22–1.83 m) apart.

[c] Mount antenna discharge unit as close as possible to where lead-in enters house.

[d] Use jumper wire not smaller than No. 6 AWG (13.3 mm^2) copper, or the equivalent, when a separate antenna-grounding electrode is used. See NEC Section 810-21 (j).

Die Deutsche Bundespost informiert

Sehr geehrter Rundfunkteilnehmer,

Dieses Gerät ist von der Deutschen Bundespost als Ton- bzw. Fernseh-Rund-funkempfänger bzw. als Komponente einer solchen Anlage (Tuner, Verstärker, aktive Lautsprecherbox, Fernseh-Monitor u. dgl.) zugelassen. Is entspricht den zur Zeit geltenden Technischen Vorschriften und ist zum Nachweis dafür mit dem Zulassungszeichen der Deutschen Bundespost gekennzeichnet. Bitte überzeugen Sie sich selbst.
Dieses Gerät darf im Rahmen der "Allgemeingenehmigung für das Irrichten und Betreiben von Ton- und Fernseh-Rundfunkempfängern" in der Bundesrepublik Deutschland betrieben werden. Beachten Sie aber bitte, daß autgrund dieser Genehmigung hur für die Allgemeinheit bestimmte Sendungen und solche, für die ebenfalls eine Allgemeine Empfangsgenehmigung erteilt worden ist*). empfangen und wiedergegeben werden dürfen. Wer unbefugt andere Sendungen (z. B. des Polizeifunks, des Mobilfunks) emfängt und wiedergibt, verstößt gegen die Genehmigungsauflagen und macht sich daher nach § 15, Absatz 2a des Gesetzes über Fernmeldeanlagen strafbar.
Die Kennzeichnung mit dem Zulassungszeichen bietet Ihnen die Gewähr, daß dieses Gerät keine anderen ordnungsgemäß errichteten und betriebenen elektrischen Anlagen stört. Der Zusatzbuchstabe S**) beim Zulassungszeichen besagt außerdem, daß das Gerät gegen störendue Beeinflussungen durch andere ordnungsgemäß errichtete und betriebene elektrische Anlagen weitgehend unemofinolich ist. Geräte ohne den Zusatz S sind nicht besonders sicher gegen Beeinflussungen.
Sollten bei Geräten mit dem Zusatz S ausnahmsweise trotzdem Beeinflussungen auftreten, oder wenn Sie Fragen haben, so wenden Sie sich bitte an die örtlich zuständige Funkstörungsmeßstelle.

*) Zur Zeit für den Empfang der Aussendungen von Amateurfunkstellen und der Normal frequenz- und Zeitzeichensendungen.
**) Weitere Zusätze haben in Bezug auf die Störfestigkeit keine Bedeutung, Sie geben bei Empfängern vielmehr Aufschluß über Empfangsmöglichkeiten.

Allgemeine Genehmigung für Ton- und Fernseh-Rundfunkempfänger

Die Allgemeine Ton- und Fernseh-Rundfunkgenehmigung vom 11.12.1970 (veröffentlicht im Bundesanzeiger Nr 234 vom 16.12.1970) wird unter Bezug auf Abschnitt III der Genehmigung durch folgende Fassung der Allgemeinen Genehmigung für Ton- und Fernseh-Rundfunkempfänger gemäß den §§ 1 und 2 des Gesetzes uber Fernmeldeanlagen ersetzt.

Genehmigung für Ton- und Fernseh-Rundfunkempfänger

I

1 Die Errichtung und der Betrieb von Ton- und Fernseh-Rundfunkempfängern werden nach §§ 1 und 2 des Gesetzes uber Fernmeldeanlagen in der Fassung der Bekanntmachung vom 17.3.1977 (BGBl. I. S. 459) allgemein genehmigt
2 Ton- und Fernseh-Rundfunkempfänger im Sinne dieser Genehmigung sind Funkanlagen gemäß § 1 Abs. 1 des Gesetzes über Fernmeldeanlagen, die ausschließlich die für Rundfunkempfänger zugelassenen Frequenzabstimmbereiche *) aufweisen und zum Aufnehmen und gleichzeitigen Hör- oder Sichtbarmachen von Ton- oder Fernseh-Rundfunksendungen bestimmt sind. Zum Empfänger gehören auch eingebaute oder mit ihm fest verbundene Antennen sowie bei Unterteilung in mehrere Geräte die funktionsmäßig zugehörenden Geräte.
Außer für den Empfang von Rundfunksendungen dürfen Ton- und Fernseh-Rundfunkempfänger nur mit besonderer Genehmigung der Deutschen Bundespost für andere Fernmeldezwecke zusätzlich benutzt werden.
In den Empfänger eingebaute oder sonst mit ihm verbundene Zusatzgeräte (z.B. Ultraschallfernmeldeanlagen, infrarotfernmeldeanlagen) werden von dieser Genehmigung nicht erfaßt (ausgenommen die Einrichtungen zum Empfang des Verkehrsrundfunks). Desgleichen sind andere technische Empfängereigenschaften, die über den eigentlichen Zweck eines Rundfunkempfängers hinausgehen (z.B zum Empfang anderer Funkdienste, für die Wiedergabe im Rahmen von Textübertragungsverfahren) hierdurch nicht genehmigt. Hierfür gelten besondere Regelungen

II.

Diese Genehmigung wird unter nachstehenden Auflagen erteilt.
1. Ton- und Fernseh-Rundfunkempfänger müssen den jeweils geltenden Technischen Vorschriften für Ton- und Fernseh-Rundfunkempfänger entsprechen. Eingebaute Zusatzgeräte müssen den für sie geltenden Bestimmungen und technischen Vorschriften genügen.
Anderungen der Technischen Vorschriften, die im Amtsblatt des Bundesministers für das Post- und Fernmeldewesen veröffentlicht werden, muß bei schon errichteten und in Betrieb genommenen Ton- und Fernseh-Rundfunkempfängern nachgekommen werden, wenn durch den Betrieb dieser Rundfunkempfänger andere elektrische Anlagen gestört werden.
Serienmäßig hergestellte Ton- und Fernseh-Rundfunkempfänger müssen zum Nachweis dafür, daß sie den Technischen Vorschriften entsprechen, mit einer DBP-Prüfnummer gekennzeichnet sein. **) Die DBP-Prüfnummer sagt über die elektrische und mechanische Sicherheit und die Einhaltung der Strahlenschutzbestimmungen nichts aus.
2. Ton- und Fernseh-Rundfunkempfänger dürfen an ortsfesten oder nichtortsfesten Rundfunk-Empfangsantennenanlagen, -Verteilanlagen oder Kabelfernsehanlagen betrieben und im Rahmen der Bestimmungen über private Drahtfernmeldeanlagen mit Drahtfernmeldeanlagen verbunden werden.
Auf demselben Grundstück oder innerhalb eines Fahrzeuges dürfen Ton- und Fernseh-Rundfunkempfänger mit anderen Geräten oder sonstigen Gegenständen (z.B. Plattenspieler, Magnetaufzeichnungs- und -Wiedergabegeräte. Antennen) verbunden werden, sofern diese Geräte von der Deutschen Bundespost genehmigt sind oder keiner Genehmigung bedürfen
Die räumliche Kombination von Funkanlagen mit Ton- oder Fernseh-Rundfunkempfängern ist nur dann zulässig, wenn die betreffenden Funkanlagen je für sich genehmigt sind.
3. Mit Ton- oder Fernseh-Rundfunkempfängern dürfen aufgrund dieser Genehmigung nur Sendungen des Rundfunks empfangen werden, also übertragene Tonsignale (Musik, Sprache) und Fernsehsignale (nur Bildinformationen). Andere Sendungen (z.B. des Polizeifunks, der öffentlichen beweglichen Landfunkdienste, Datenübertragungen) dürfen nicht aufgenommen werden, werden sie jedoch unbeabsichtigt empfangen, so dürfen sie weder aufgezeichnet, noch anderen mitgeteilt, noch für irgendwelche Zwecke ausgewertet werden. Das Vorhandensein solcher Sendungen darf auch nicht anderen zur Kenntnis gebracht werden.
4 Durch Ton- oder Fernseh-Rundfunkempfänger darf der Betrieb anderer elektrischer Anlagen nicht gestört werden.
5. Anderungen der Ton- oder Fernseh-Rundfunkempfänger, die die zulässigen Frequenzabstimmbereiche der Empfänger erweitern, gehen über den Umfang dieser Genehmigung hinaus und bedürfen vor ihrer Ausführung einer besonderen Genehmigung der Deutschen Bundespost
Wer aufgrund dieser Genehmigung einen Ton- oder Fernseh-Rundfunkempfanger betreibt, hat bei einer Änderung der kennzeichnenden Merkmale von Ton- oder Fernseh-Rundfunksendern (insbesondere bei Änderung des Sendeverfahrens oder bei Frequenzwechsel) die ggf. notwendig werdenden Änderungen an den Rundfunkempfängern auf seine Kosten vornehmen zu lassen.
6. Die Deutsche Bundespost ist berechtigt, Rundfunkempfänger und mit ihnen verbundene Geräte darauf zu prüfen, ob die Auflagen der Genehmigung und die Technischen Vorschriften eingehalten werden.
Den Beauftragten der Deutschen Bundespost ist das Betreten der Grundstücke oder Räume, in denen sich Ton- oder Fernseh-Rundfunkempfänger befinden, zu den verkehrsüblichen Zeiten zu gestatten. Befinden sich die Rundfunkempfänger oder mit ihnen verbundene Geräte nicht im Verfügungsbereich desjenigen, der die Empfänger betreibt, so hat er den Beauftragten der Deutschen Bundespost Zutritt zu diesen Teilen zu ermöglichen.

III.

Bei Funkstörungen die nicht durch Mangel der Rundfunkempfänger oder der mit ihnen verbundenen Geräte verursacht werden, können die Funkmeßdienste der Deutschen Bundespost zur Feststellung der Störung in Anspruch genommen werden.

IV.

1 Diese Genehmigung kann allgemein oder durch die örtlich zuständige Oberpostdirektion einem einzelnen Betreiber gegenüber für einen bestimmten Rundfunkempfänger widerrufen werden. Ein Widerruf ist insbesondere zulässig, wenn die unter Abschnitt II aufgeführten Auflagen nicht erfüllt werden.
Anstatt die Genehmigung zu widerrufen, kann die Deutsche Bundespost anordnen, daß bei einem Verstoß gegen eine Auflage ein Ton- oder Fernseh-Rundfunkempfänger außer Betrieb zu setzen ist und erst bei Einhaltung der Auflagen wieder betrieben werden darf.
Die Auflagen dieser Genehmigung können jederzeit ergänzt oder geändert werden.
2. Diese Genehmigung ersetzt die Allgemeine Ton- und Fernseh-Rundfunkgenehmigung vom 11.12.1970, sie gilt ab 1.7.1979.

Bonn, den 14.5.1979

Der Bundesminister
für das Post- und Fernmeldewesen
Im Auftrag
Haist

*) Siehe Technische Vorschriften für Ton- und Fernseh-Rundfunkempfänger, veröffentlicht im Amtsblatt des Bundesmnisters für das Post- und Fernmeldewesen.
**) Für ausnahmsweise noch nicht gekennzeichnete, vor dem 1.7.1979 errichtete und in Betrieb genommene Ton-Rundfunkempfänger wird die Kennzeichnung nicht verlangt.

PRECAUTIONS FOR INSTALLATION
Leave at least 10cm of space between this unit and any other component placed above.

SICHERHEITSMASSNAHMEN BEIM EINBAU
Lassen einen Mindestabstand von 10 cm zwischen diesem Gerät und der anderen Komponente, die daraufgestellt wird.

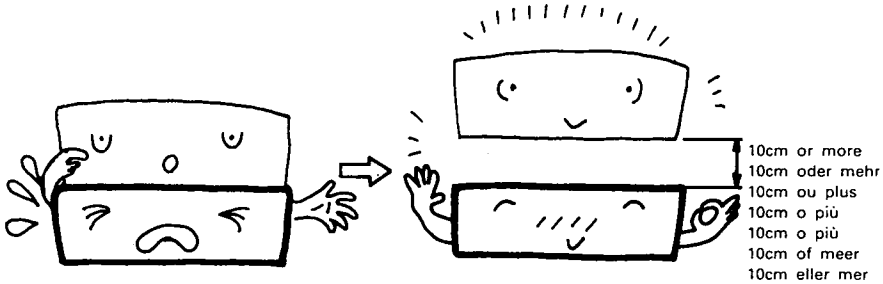
PRECAUTIONS D'INSTALLATION
Prévoir un espace d'au moins 10cm entre l'unité et tout autre appareil se trouvant au-dessus.

PRECAUZIONI PER L'INSTALLAZIONE
Lasciate uno spazio libero di almeno 10 cm fra quest'unità e qualsiasi altro componente che è collocato sopra la stessa.

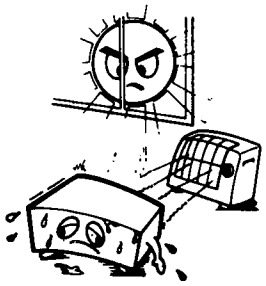
PRECAUCIONES PARA LA INSTALACION
Deje por lo menos 10 cm. de espacio entre esta unidad y cualquier otro componente situado sobre ella.

VOORZORGSMAATREGELEN
Bij plaatsing dient u een ruimte van minstens 10 cm open te laten tussen dit toestel en een ander erop geplaatst komponent.

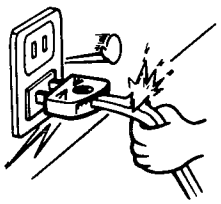
FÖRSIKTIGHETSÅTGÄRDER VID INSTALLATIONEN
Se till att det finns minst 10 cm mellanrum mellan apparaten och en ev. annan apparat som ställs ovanpå.



NOTE ON USE/HINWEISE ZUM GEBRAUCH/OBSERVATIONS RELATIVES A L'UTILISATION NOTE SULL'USO/NOTAS SOBRE EL USO/ALVORENS TE GEBRUIKEN/OBSERVERA

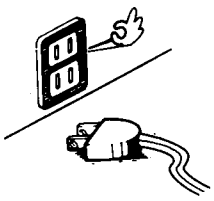


- Avoid high temperatures
  Allow for sufficient heat dispersion when installed on a rack.
- Vermeiden Sie hohe Temperaturen
  Sehen Sie zu, daß eine zureichende Luftzirkulation gewährleistet wird, wenn das Gerät auf ein Regal gestellt wird.
- Eviter des températures élevées
  Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère.
- Evitate di esporre l'unità a temperature alte.
  Assicuratevi che ci sia un'adeguata dispersione del calore quando installate l'unità in un mobile per componenti audio.
- Evite altas temperaturas
  Permite la suficiente dispersión del calor cuando está instalado en la consola.
- Vermijd hoge temperaturen.
  Zorg voor een degelijk hitteafvoer indien het apparaat op een rek wordt geplaatst.
- Undvik höga temperaturer.
  Se till att det finns möjlighet till god värmeavledning vid montering i ett rack.

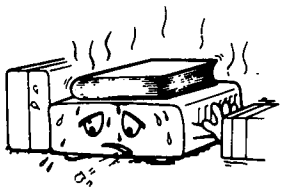


- Handle the power cord carefully.
  Hold the plug when unplugging the cord.
- Gehen Sie vorsichtig mit dem Netzkabel um.
  Halten Sie das Kabel am Stecker, wenn Sie den Stecker herausziehen.
- Manipuler le cordon d'alimentation avec précaution.
  Tenir la prise lors du débranchement du cordon.
- Manneggiate il filo di alimentazione con cura.
  Agite per la spina quando scollegate il cavo dalla presa.
- Maneje el cordón de energía con cuidado.
  Sostenga el enchufe cuando desconecte el cordón de energía.
- Hanteer het netsnoer voorzichtig.
  Houd het snoer bij de stekker vast wanneer deze moet worden aan- of losgekoppeld.
- Hantera nätkabeln varsamt.
  Håll i kabeln när den kopplas från eluttaget.

- Keep the set free from moisture, water, and dust.
- Halten Sie das Gerät fern von Feuchtigkeit, Wasser und Staub.
- Protéger l'appareil contre l'humidité, l'eau et la poussière.
- Tenete l'unità lontana dall'umidità, dall'acqua e dalla polvere.
- Mantenga el equipo libre de humedad, agua y polvo.
- Laat geen vochtigheid, water of stof in het apparaat binnendringen.
- Utsätt inte apparaten för fukt, vatten och damm.

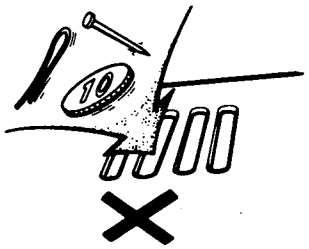


- Unplug the power cord when not using the set for long periods of time.
- Wenn das Gerät eine längere Zeit nicht verwendet werden soll, trennen Sie das Netzkabel vom Netzstecker.
- Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.
- Disinnestate il filo di alimentazione quando avete l'intenzione di non usare il filo di alimentazione per un lungo periodo di tempo.
- Desconecte el cordón de energía cuando no utilice el equipo por mucho tiempo.
- Neem altijd het netsnoer uit het stopkontakt wanneer het apparaat gedurende een lange periode niet wordt gebruikt.
- Koppla ur nätkabeln om apparaten inte kommer att användas i lång tid.

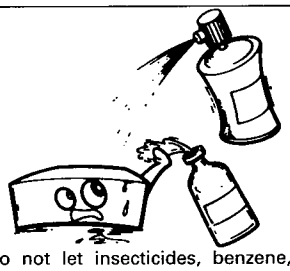


*(For sets with ventilation holes)

- Do not obstruct the ventilation holes.
- Die Belüftungsöffnungen dürfen nicht verdeckt werden.
- Ne pas obstruer les trous d'aération.
- Non coprite i fori di ventilazione.
- No obstruya los orificios de ventilación.
- De ventilatieopeningen mogen niet worden beblokkeerd.
- Täpp inte till ventilationsöppningarna.



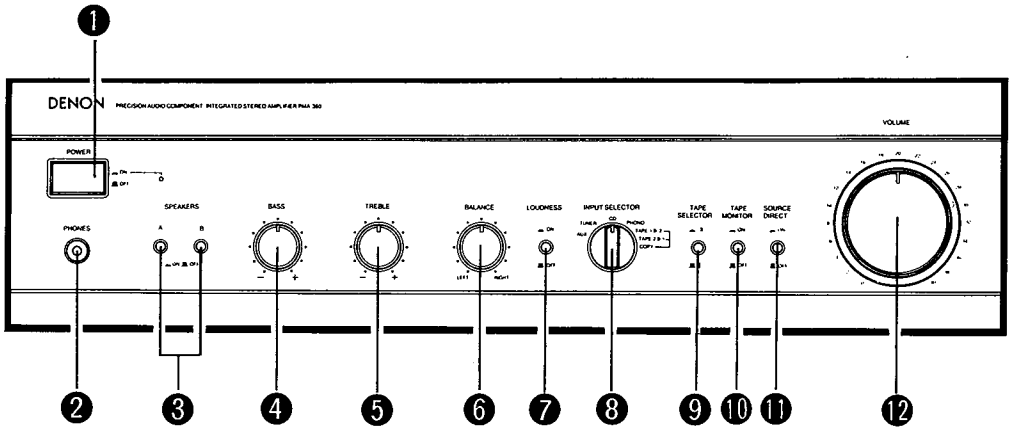
- Do not let foreign objects in the set.
- Keine fremden Gegenstände in das Gerät kommen lassen.
- Ne pas laisser des objets étrangers dans l'appareil.
- E' importante che nessun oggetto è inserito all'interno dell'unità.
- No deje objetos extraños dentro del equipo.
- Laat geen vreemde voorwerpen in dit apparaat vallen.
- Se till att främmande föremål inte tränger in i apparaten.



- Do not let insecticides, benzene, and thinner come in contact with the set.
- Lassen Sie das Gerät nicht mit Insektiziden, Benzin oder Verdünnungsmitteln in Berührung kommen.
- Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.
- Assicuratevvi che l'unità non venga in contatto con insetticidi, benzolo o solventi.
- No permita el contacto de insecticidas, gasolina y diluyentes con el equipo.
- Laat geen insektenverdelgende middelen, benzine of verfverdunner met dit apparaat in kontakt komen.
- Se till att inte insektsmedel på spraybruk, bensen och thinner kommer i kontakt med apparatens hölje.

- Never disassemble or modify the set in any way.
- Versuchen Sie niemals das Gerät auseinander zu nehmen oder auf jegliche Art zu verändern.
- Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.
- Non smontate mai, nè modificate l'unità in nessun modo.
- Nunca desarme o modifique el equipo de ninguna manera.
- Nooit dit apparaat demonteren of op andere wijze modifiëren.
- Ta inte isär apparaten och försök inte bygga om den.

FRONT PANEL
FRONTPLATTE
PANNEAU AVANT



BACK PANEL
RÜCKWAND
PANNEAU ARRIERE

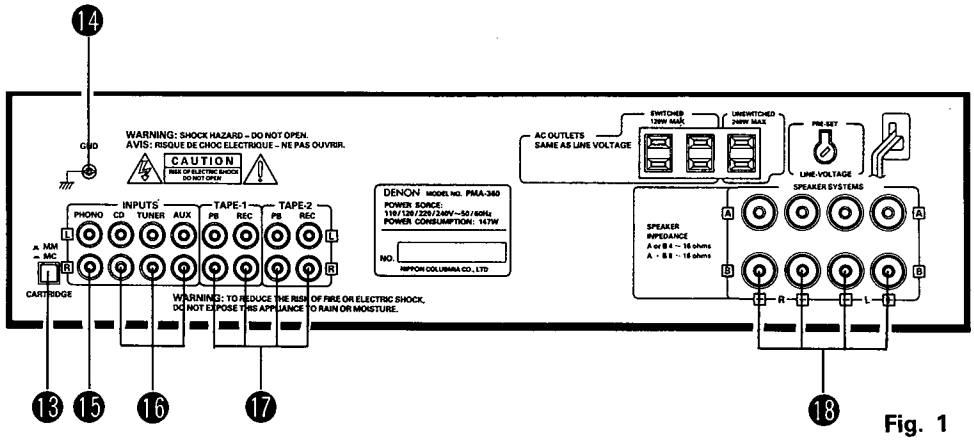


Fig. 1
Abb. 1

⑬ CARTRIDGE	⑭ GND	⑮ PHONO	⑯ CD, TUNER, AUX	⑰ TAPE-1, TAPE-2 • TAPE PB • TAPE REC	⑱ SPEAKERS
Cartridge Selection Switch	GND	Phono Input Terminals (Phono)	Input Terminals (CD, TUNER, AUX)	Playback and Recording Terminals • Playback Terminals • Recording Terminals	Speaker Terminal
Tonabnehmer-Wahlschalter	GND	Schallplattenspieler-Eingangsbuchsen (Phono)	Eingangsbuchsen (CD, TUNER, AUX)	Tonband-Ein/Ausgänge • Wiedergabe • Aufnahme	Lautsprecher-klemmen
Sélecteur de cellule	GND	Bornes d'entrée (phono)	Bornes d'entrée (CD, TUNER, AUX)	Bornes de lecture et d'entregistrement • Bornes de lecture • Bornes dénregistrement	Borness de haut-Parleurs

Connection to the Speaker System
Anschluß der Lautsprecheranlage
Connexion du système de haut-Parleurs

1. Peel off the sheathing from the end of the cord.
2. Twist the wire strands.
3. Loosen the speaker terminal, insert the wire lead portion of the code, and then tighten the terminal.

1. Ein Stück der Isolierung am Kabelende wegschneiden.
2. Den Litzendraht zusammendrehen.
3. Die Lautsprecherklemme lösen, das bloßliegende Drahtende einführen und durch Anziehen der Klemme gut einklemmen.

1. Dénuder la gaine de l'extrémité du cordon.
2. Torsader les fils de cordon.
3. Desserrer la borne du haut-parleur, insérer l'extrémité du fil du cordon, puis serrer la borne.

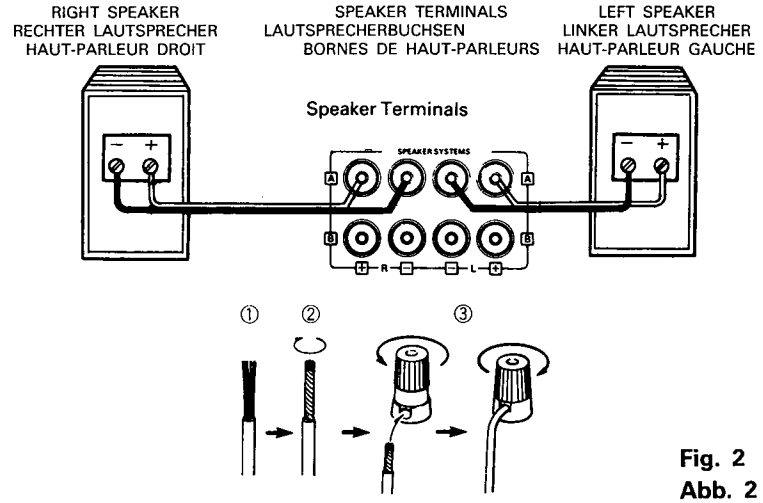


Fig. 2
Abb. 2

CONNECTIONS
ANSCHLÜSSE
CONNEXIONS

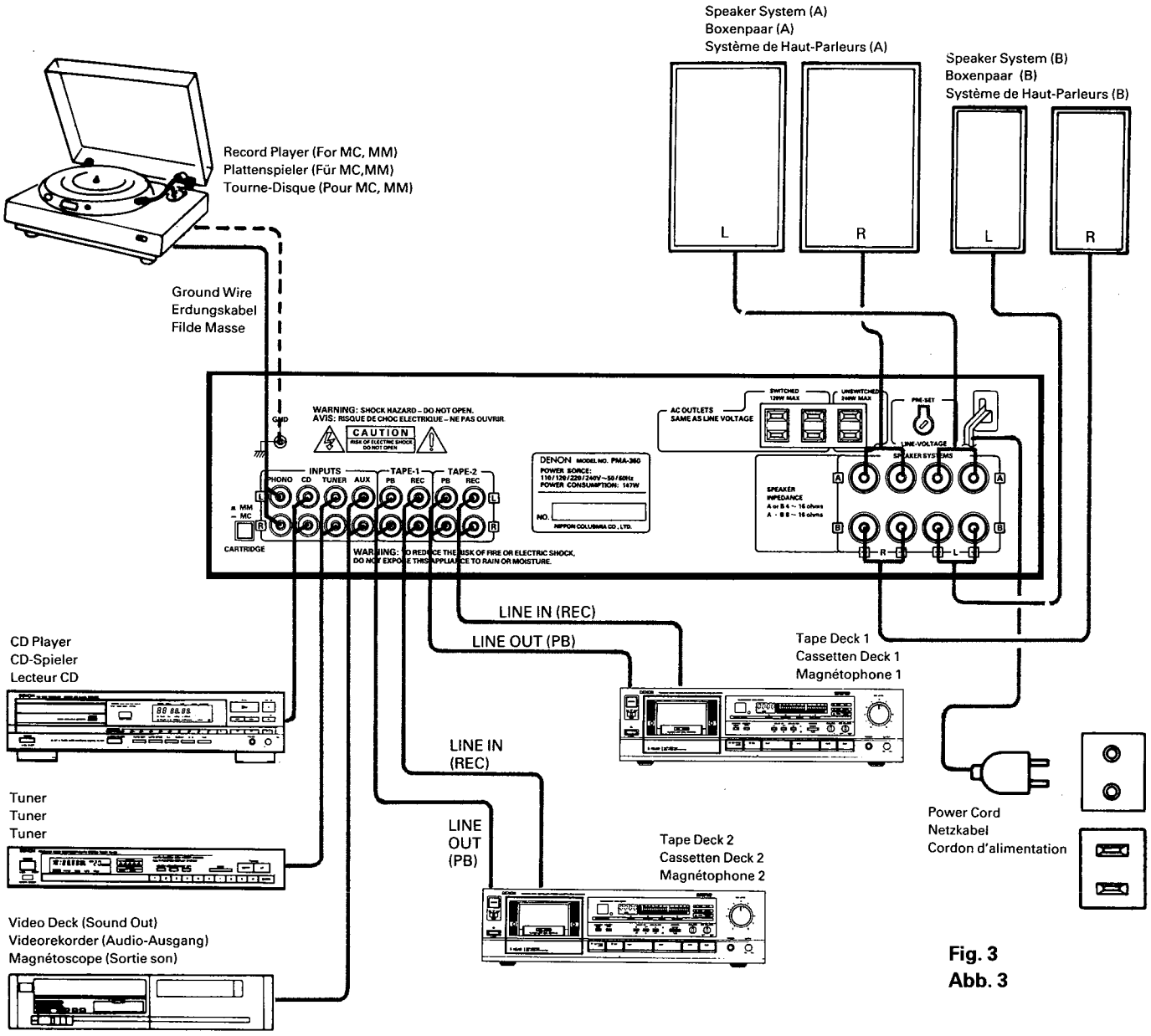
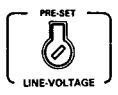


Fig. 3
Abb. 3

- **AC OUTLETS . . . For U.S.A., Canada and Multi-Voltage models.** AC outlets are used for connecting amplifier component units, such as tuner, turntable, tape deck, etc.
  - SWITCHED (Total capacity: 120 W): This outlet is turned ON/OFF when main power switch is turned on/off.
  - UNSWITCHED (Capacity: 240 W) These outlets are always ON whether power switch is on or OFF.
- **LINE VOLTAGE (Voltage select switch) . . . For Multi-Voltage model only.**
  - * The desired voltage may be set with the VOLTAGE SELECTOR KNOB on the back panel using a screw driver.
  - * Do not twist the VOLTAGE SELECTOR KNOB with excessive force. It may be damaged.
  - * If the voltage select switch does not turn smoothly, see qualified serviceman.



- **Sorties CA . . . Pour USA, Canada et multi-tension modèles** Les AC OUTLETS (sorties CA) peuvent être utilisées pour enficher des cordons d'alimention d'appareils connectés à l'ampli, tels que tuner, lecteur de disque ou magnétophone.
  - SWITCHED (en circuit) (Capacité max: 120 W) Ces alimentations sont commandées par l'interrupteur d'alimentation principal (POWER), et ouvertes (ON) et coupées (OFF) par cet interrupteur.
  - UNSWITCHED (hors circuit) (Capacité max.: 240 W) Cette alimentation n'est pas connectée è l'interrupteur (POWER).

DESIGNATIONS AND FUNCTIONS OF PANEL CONTROLS

❶ POWER (Power Switch)

When the power switch is turned ON (▬), the power function indicator lights.

When the power switch is turned ON, power is supplied to the unit. It takes a few seconds after the power is turned on for the unit to warm up. This is due to the built-in muting circuit that eliminates noise during the on/off operation.

❷ PHONES (Headphone Jack)

This jack is used to plug in the headphones.

❸ SPEAKERS (Speaker Selection Switch)

The PMA-360 can be connected to two speaker systems: speaker system A and speaker system B.

When A is pressed, the speaker system connected to speaker output terminals A operates.

When B is pressed, the speaker system connected to speaker output terminals B operates.

When A and B are pressed on together, both speaker systems operate simultaneously. When the A and B switches are both off (in the out position), there is no output from the speaker terminals. This setting is used to listen to playback through the headphones.

❹ BASS (Bass Control)

This knob is used to control the base quality of the sound. When the knob is set at the center position, the frequency characteristics are flattened in the range below 1000 Hz. The bass is emphasized as the knob is moved off center to the right (↷), and reduced as it is moved to the left (↶). When volume control ⓬ is set to the right of the center position, the effect of the other controls is reduced.

❺ TREBLE (Treble Control)

This knob is used to control the treble quality of the sound. When the knob is set at the center position, the frequency characteristics are flattened in the range above 1000 Hz. The treble is emphasized as the knob is moved off center to the right (↷), and reduced as it is moved to the left (↶). When volume control ⓬ is set to the right of the center position, the effect of the other controls is reduced.

❻ BALANCE (Balance Control)

This knob is used to adjust the balance between the left and right channels. When it is set to the center position, the amplitude of the amplifier is equal on both sides. If there is a difference in the left and right channel output voltages for a cartridge, move the knob to the left and the right to adjust it. If the volume on the right side is too low, turn the knob to the right (↷). If the volume on the left side is too low, turn the knob to the left (↶). This will achieve an even balance on the left and right sides.

❼ LOUDNESS (Loudness Switch)

When the volume is low, it is difficult for the human ear to clearly distinguish notes in the low and high frequency ranges. The loudness switch allows a simple "one-touch" correction of this difficulty. Press the loudness switch ON (▬) when listening to music at a low volume. The low notes and high notes will be corrected to produce a natural sound.

❽ INPUT SELECTOR (Input Select Switch)

This switch is used to select the input signal for the program source. The source to be recorded is also selected with this switch.

- PHONO: Used to select the output from a turntable that is connected to the PHONO terminal. Use the PHONO switch ⓭ (Back Panel Side) to switch the sensitivity to correspond to the cartridge type being used.
- CD: Used to listen a compact disc player or other component that is connected to the CD terminal.
- TUNER: Used to play a component such as an FM/AM tuner or a TV tuner that is connected to the TUNER terminal.
- AUX: Used to play a component such as a Hi Fi video player, TV tuner, 8-track tape player or tape deck that is connected to the AUX terminal.
- TAPE-1 ▶ 2
- TAPE-2 ▶ 1

  When using two tape decks to copy from one tape to another, set the switch to either "TAPE-1 ▶ 2" or "TAPE-2 ▶ 1".

  The "TAPE-1 ▶ 2" position is used to copy from tape deck 1 to 2.

  The "TAPE-2 ▶ 1" position is used to copy from tape deck 2 to 1.

  Set TAPE MONITOR switch ⓾ to "ON (▬)" to monitor the source being recorded.

❾ TAPE SELECTOR (Tape Selector Switch)

This switch is used to select the source to be played back when TAPE MONITOR switch ⓾ is "ON (▬)".

The "1: (▮)" position is used to play back the tape deck connected to TAPE-1.

The "2: (▬)" position is used to play back the tape deck connected to TAPE-2.

❿ TAPE MONITOR (Tape Monitor Switch)

- When this switch is "ON (▬)", the source selected by TAPE SELECTOR switch ❾ will be played back.
- When this switch is "OFF (▮)", the source selected by INPUT SELECTOR switch ❽ will be played back.

  However, since "TAPE-1 ▶ 2" and "TAPE-2 ▶ 1" of the INPUT SELECTOR switch are positions used for copying, playback will not be possible.

⓫ SOURCE DIRECT (Source Direct Switch)

The controls (BALANCE, LOUDNESS, and TONE) can be used when this switch is in the OFF (▬) position. When set to the ON (▬) position, the above controls are by-passed and the signals are input directly to the volume control circuit, providing high quality sound.

⓬ VOLUME (Volume Control)

This knob controls the overall volume level. Turn the knob to the right (↷) to raise the volume and to the left (↶) to lower it.

⓭ PHONO (Cartridge Selection Switch): Back Panel Side

This switch is set according to the type of player cartridge to be used.

- MC (▬): Used when an MC (moving-coil) cartridge with an output of less than 0.5 mV is used.
- MM (▬): Used when an MM (moving-magnet) cartridge with an output of 2 mV or more is used.

OPERATION

PREPARATION

1. CHECKING CONNECTIONS

- Make sure that all the connections are proper by referring to the back panel. (Fig. 2~3)
- Check the polarity (positive and negative) of connections, and the directivity of stereo separation (right cord to right channel terminal, and left cord to left channel terminal).
- Check the directivity of pin cord connection.

2. SETTING OF EACH KNOB

- Turn the volume control knob counterclockwise, to "0".
- Set the rotary knob to "flat".
- Set the LOUDNESS switch to "OFF".
- Set the TAPE MONITOR switch to "OFF."
- Turn on the speaker selection switch for desired speaker system (A or B).

After checking the above items, turn on the power, the amplifier is set in the ready mode in a few seconds.

PLAYING A RECORD

1. Set the INPUT SELECTOR switch to "PHONO".
2. Operate the turntable and play the record.
3. Turn the volume and tone controls to yield an appropriate volume and sound quality.

PLAYBACK OF CD PLAYER

1. Set the INPUT SELECTOR switch to "CD".
2. Operate the CD player.
3. Turn the volume and tone controls to yield an appropriate volume and sound quality.

RECEPTION OF RADIO PROGRAMS

1. Set the INPUT SELECTOR switch to "TUNER".
2. Operate the tuner to receive a radio program.
3. Turn the volume and tone controls to yield an appropriate volume and sound quality.

CONNECTIONS OF AUDIO EQUIPMENT TO AUX TERMINALS

1. Set the INPUT SELECTOR switch to "AUX" Position.
2. Operate the Audio equipment Systems.
3. Turn the volume and tone controls to yield an appropriate volume and soundquality.

PLAYBACK WITH TAPE DECK

Set the TAPE MONITOR switch to "ON" and select "1 (▬)" or "2 (▬)" with the TAPE SELECTOR switch.

RECORDING WITH TAPE DECK

The source to be recorded is selected by the INPUT SELECTOR switch.

While the tape is being copied, it is not possible to listen to another program source from speakers.

- **COPYING FROM ONE TAPE TO ANOTHER**

  To copy from tape deck 1 to 2, set INPUT SELECTOR switch to "TAPE-1 ▶ 2".

  To copy from tape deck 2 to 1, set INPUT SELECTOR switch to "TAPE-2 ▶ 1".

- **MONITORING THE RECORDING**

  A recording in progress can be monitored if a tape deck with three individual heads for recording and playback is used. A tape deck in which a common head is used for both recording and playback cannot be used to monitor recording. Set the TAPE SELECTOR switch to "1" or "2" to correspond to the tape deck that is being used for the recording and set the TAPE MONITOR switch to "ON". Use the TAPE MONITOR switch to switch between the recording monitor and the program source.

CAUTION

Protective Circuit

This set is equipped with a high speed protctive circuit. This circuit protects the internal circuitry from damage due to large currents flowing when the speaker jacks are not completely connected or when an output is generated by a short circuit. This protective circuit's operation cuts off the output to the speakers. In such a case, be sure to turn the power to the set off and check the connections to the speakers. Then turn the power on again. After muting for several seconds, the set will operate normally.

Technical Data (typical value)	Technische Daten (typische Werte)	Caractéristiques techniques (valeur caractéristique)	
• **POWER AMPLIFIER SECTION**	• **LEISTUNGSENDSTUFE**	• **PARTIE AMPLIFICATEUR DEPUISSANCE**	
Rated Output Power:	**Nenn-Ausgangsleistung:**	**Puissance nominale:**	
*[1]Both channel driven (8 ohm Load) 20 Hz to 20 kHz, (4 ohm Load) DIN, 1 kHz, T.H.D. 0.7%	*[1]Beide Kanäle betroebem (an 8 Ohm) 20 Hz bis 20 kHz (an 4 Ohm) DIN, 1 kHz, T.H.D. 0,7%	*[1]Entraînement deux canaux (charge 8 ohms) 20 Hz à 20 Hz; (charge 4 ohms) DIN, 1 kHz, D.H.T. 0,7%	60W + 60W T.H.D. 0.05% 90W + 90W
*[2]Continuous 60W per channel min., into 8 ohms from 20 Hz to 20 kHz with no more than 0.05% total harmonic distorsion	*[2]Fortlaufend min. 60 W pro Kanal, in 8 Ohm von 20 Hz bis 20 kHz bei einem Klirrfaktor nicht größer als 0,05% Gesamtklirr	*[2]Puissance continue 60 W par canal minimum sur 8 ohms entre 20 Hz et 20 kHz avec une distorsion harmonique totale de 0,05% au plus	
Total Harmonic Distortion: (–3 dB at rated output, 8 ohms)	**Gesamtklirrfaktor:** (–3 dB bei Nennausgang, 8 Ohm)	**Distorsion harmonique totale:** (–3 dB à la sortie nominale, 8 ohms)	0.008%
• **PRE AMPLIFIER SECTION**	• **VORVERSTÄRKER**	• **PRE-AMPLI**	
Rated Output: (Recout Terminal)	**Nenn-Ausgangsleistung:** (Aufnahme-Ausgangsbuchse)	**Puissance nominale:** (Borne de sortie d'enregistrementz)	150 mV
Input Sensitivity / Input Impedance:	**Eingangsempfindlichkeit / Eingangsimpedanz:**	**Sensibilité d'entrée / impédance d'entrée:**	
PHONO (MM/MC):	PHONO (MM/MC):	PHONO (MM/MC):	MM 2.5 mV/47 kohm, MC 0.2 mV / 100 ohm
CD, TUNER AUX, TAPE-1, TAPE-2: The value in parentheses ( ) refers to the input impedance when SOURCE DIRECT is ON.	CD, TUNER, AUX, TAPE-1, TAPE-2: Der in Klammern ( ) angegebene Wert bezieht sich auf die Eingangsimpedanz, wenn der Quellen-Direktschalter (SOURCE DIRECT) eingeschaltet (ON) ist.	CD, TUNER, AUX, TAPE-1, TAPE-2: La valeur entre parenthèses ( ) se rapporte à l'impédance d'entrée lorsque la touche de source directe (SOURCE DIRECT) est sur la position sous tension (ON).	150 mV / 47 kohm (15 kohm)
RIAA Deviation: PHONO: Within ±0.3 dB	**Abweichung von der** RIAA-Kennlinie; PHONO: Innerhalb ±0,3 dB	**Variation RIAA:** PHONO: Inf. à ±0,3 dB	20 Hz~20 kHz
Maximum Input:	**Maximaler Eingang:**	**Entrée max.:**	PHONO MM: 160 mV / 1 kHz, MC: 12 mV / 1 kHz
• **OVERALL CHARACTERISTICS**	• **GESAMTEIGENSCHAFTEN**	• **CARACTERISTIQUES GENERALES**	
SN Ratio (IHF A Network):	**Signal / Rauschabstand (IHF-A-Weiche):**	**Rapport signal / bruit (réseau IHF A):**	
(input terminals short-circuited) SOURCE DIRECT: ON	(Eingänge kurzgeschlossen) SOURCE DIRECT: ON (Direktquellen schalter)	(Bornes d'entrée court- SOURCE DIRECT: ON (Commutateur de source directe)	PHONO: MM: 94 dB (at 5 mV input), MC: 75 dB (at 0.5 mV input) CD, TUNER, AUX TAPE-1, TAPE-2: 107 dB
Tone Control Adjustable Range:	**Klangregelbereich:**	**Gamme de réglage de tonalité:**	
BASS	TIEFEN (BASS)	GRAVES	100 Hz ± 8 dB
TREBLE	HÖHEN (TREBLE)	AIGUS	10 kHz ± 8 dB
Loudness:	**Gehörrichtige Lautstärke:**	**Compensation physiologique:**	100 Hz + 7 dB 10 kHz + 6 dB
• **OTHERS**	• **SONSTIGES**	• **AUTRES**	
Power Supply	**Netzspannung und -frequenz**	**Alimentation**	AC120V/60 Hz AC220V/50 Hz, 240V/50 Hz AC110/120/220/240V, 50/60 Hz
AC Outlets	**Wechselstrom-Ausgänge**	**Prises secteur (AC)**	U.S.A., Canada and Multi-voltage models.
*[2] Switched × 2:	*[2] Geschaltet × 2:	*[2] Commutées × 2:	120W (Total)
Unswitched × 1:	Ungeschaltet × 1:	Non commutée × 1:	240W
Power Consumption	**Leistungsaufnahme**	**Consommation**	3.3A (U.S.A. and Canada) 200W (IEC) 147W (Multi-voltage)
Dimensions (W)×(H)×(D)	**Abmessungen (B)×(H)×(T)**	**Dimensions (L)×(H)×(D)**	434×120×279 mm (17-3/32"×4-23/32"×10-63/64")
Net Weight	**Nettogewicht**	**Poids**	5.8 kg (12 lbs 13 oz)

Note: *1 For Europe
*2 For the U.S.A., Canada, and Multi-voltage

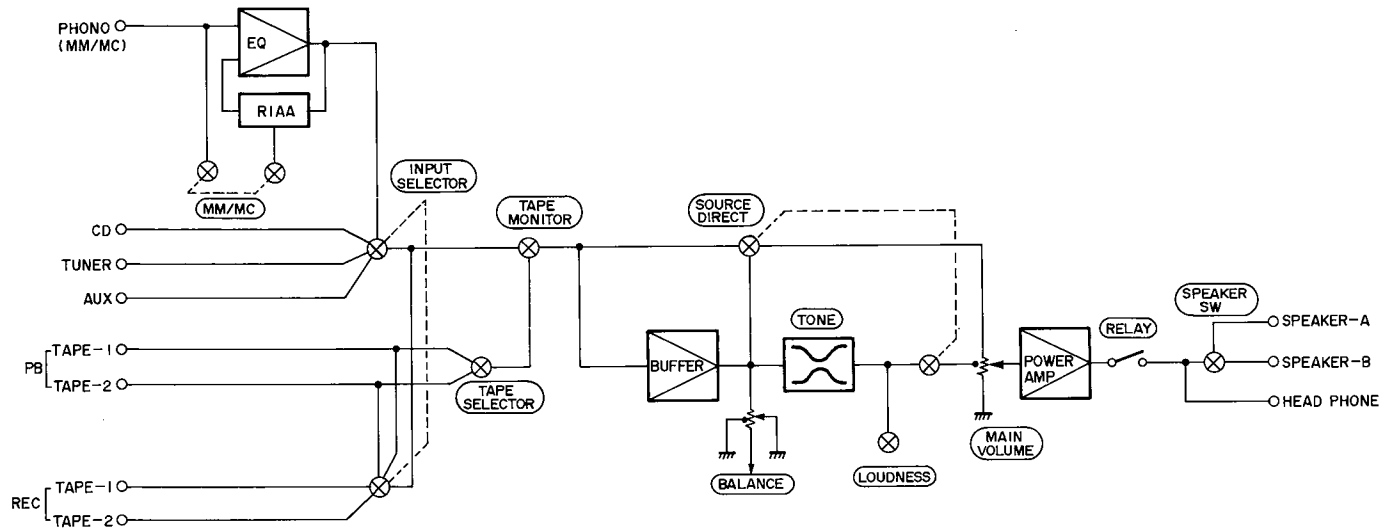
Hinweis: *1 Für Europa
*2 Für USA, Kanada und Multi-Spannung

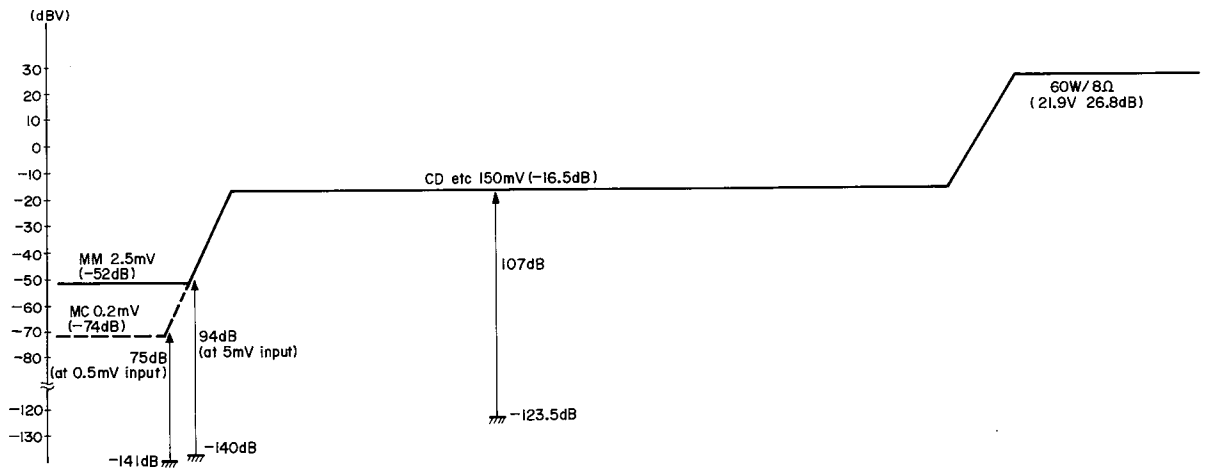
Note: *1 Pour l'Europe
*2 Pour Les Etats-Unis, le Canada et les modèles multi-tension

Nota: *1 Per l'Europa
*2 Per gli Usa, Canada e multivoltaggio

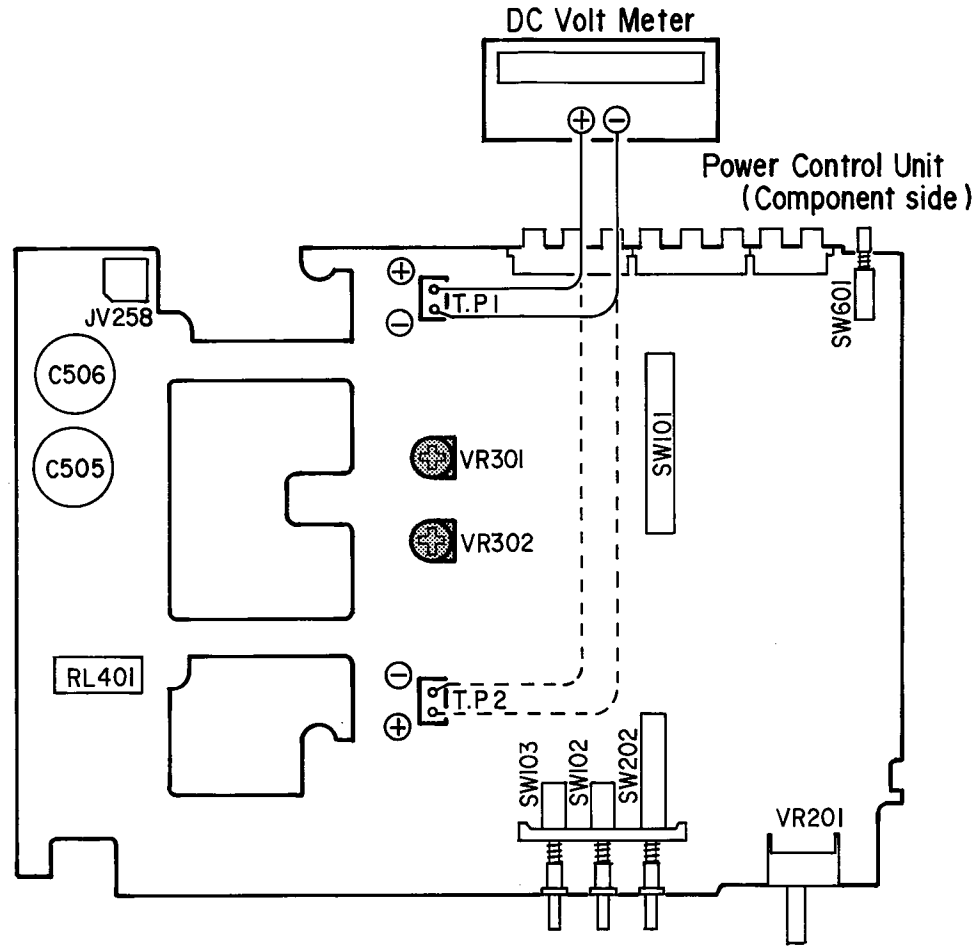
- Specifications and contents are subject to change without notice for purposes of improvement.
- Änderungen des Inhalts und der technischen Daten zum Zwecke der Verbesserung vorbehalten.
- Spécifications et contenu sont sujets à modification sans préavis.
- Il disegno e le specifiche si intendono soggetti a modifica senza preavviso.

BLOCK AND LEVEL DIAGRAM





METHOD OF ADJUSTMENTS



IDLING CURRENT

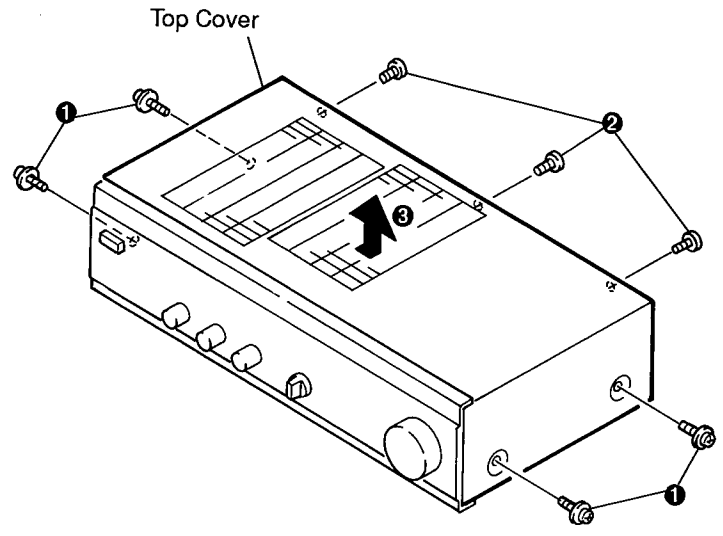
- Setup
  1. Lay the unit at an ordinary position away from a direct current from a cooler or fan. Do the adjustment at a temperature between 15°C (59°F) and 30°C (86°F).
  2. Set controls as follows.
     POWER SWITCH → OFF ( )
     VOLUME CONTROL → fully counterclockwise. ( ) min. [Main volume (VR201) and Semifixed volume (VR301...Lch, VR302...Rch)
     SPEAKER Terminals → open: do not connect the speakers, dummy load etc.

- Adjustment
  1. Remove Top cover. And then connect DC Voltmeter to Test points of 1U-2009 (Main Unit).
  2. Connect Power cord to AC wall outlet, and turn Power Switch "on" ( ) . Within 10 seconds turn VR301 (Lch) and VR302 (Rch) clockwise so that the DC voltmeter reads 1.0 ± 0.2 mV DC.
  3. Then after 2 minutes warmup adjust VR301 and VR302 so that the DC Voltmeter reads 3.0 ± 0.2mV DC.
  4. And after 10 minutes warmup adjust VR301 and VR302 so that the DC Voltmeter reads 3.0 ± 0.2 mV DC.

REMOVAL OF EACH SECTION

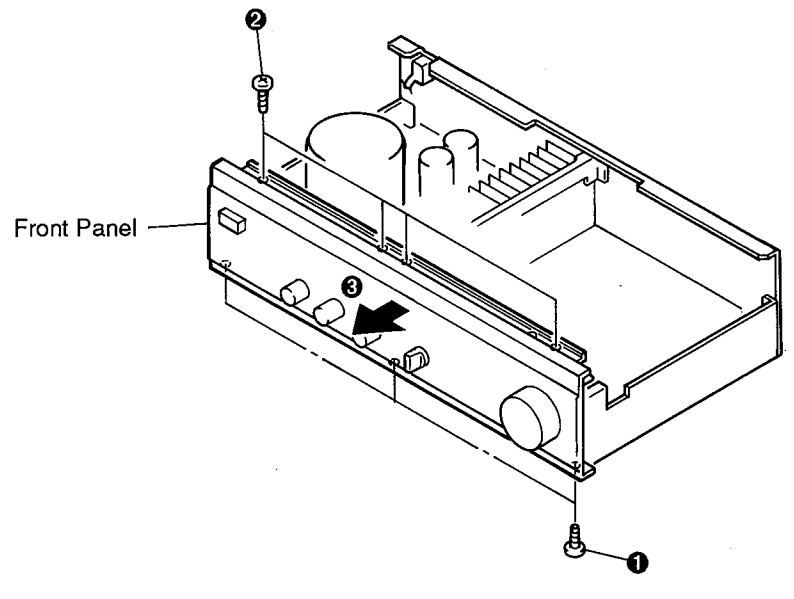
1. Top Cover

❶ Remove four side screws, ❷ three rear screws, and ❸ pull the Cover to arrow direction.



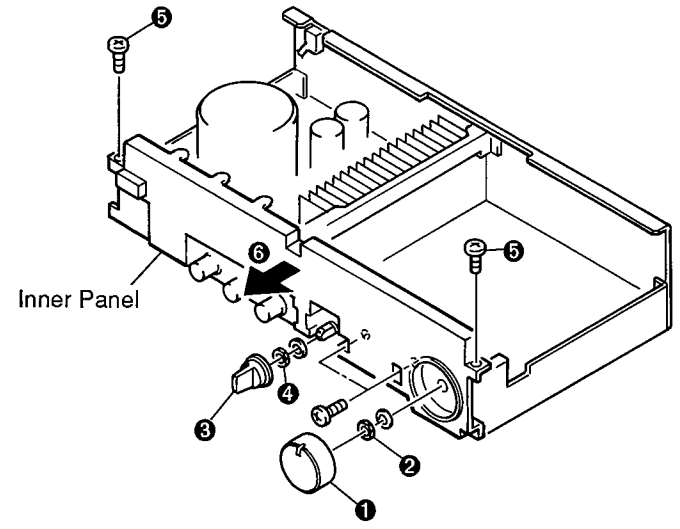
2. Front Panel

❶ Remove three lower screws, ❷ four upper screws, and ❸ pull the Front Panel to arrow direction.



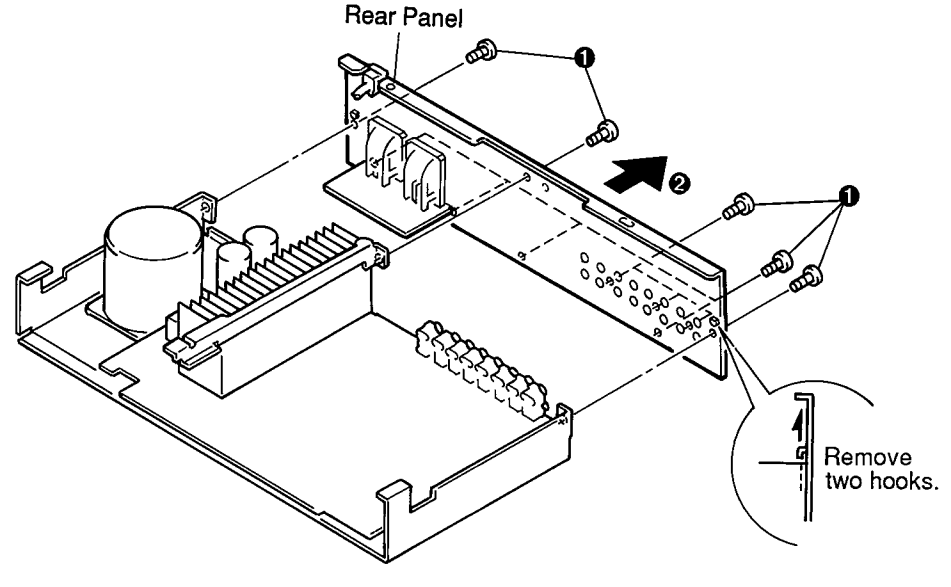
3. Inner Panel

❶ Remove Volume Cont. knob and ❷ nut. ❸ Then remove knob and ❹ nut. ❺ And remove two screws. ❻ pull the Inner Panel to arrow direction.



4. Rear Panel

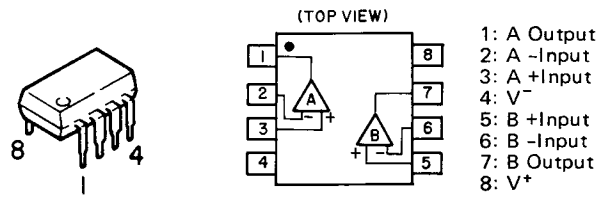
❶ Remove ten screws, ❷ pull the Rear Panel to arrow direction.



SEMICONDUCTORS

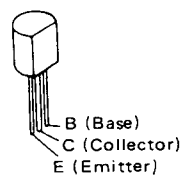
● IC's

NJM4558DD (IC201,601)

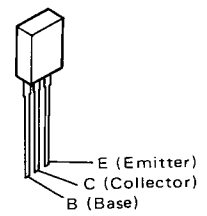


● TRANSISTORS

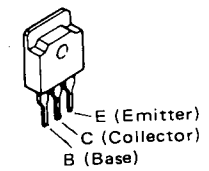
2SC2240(BL/GR)
2SA988(E/F)
2SC1841(E/F)
2SC1815 (Y)
2SA970(BL)



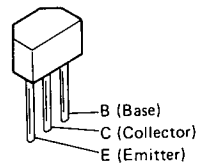
2SB1328(P)
2SD2004(P)



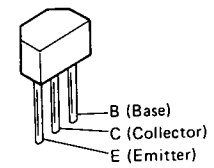
2SA1491(O)/(P)/(Y)
2SC3855(O)/(P)/(Y)

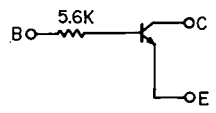


2SC2458(BL)
2SA1048(GR)



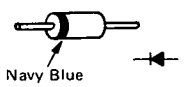
RN1241(5.6k - -)NPN



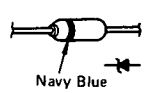


● DIODES (including LED)

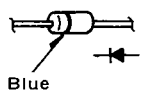
1S2076A
1SS270A



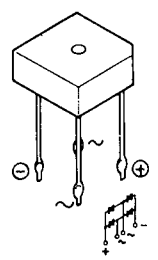
HZ36-3
HZS16-2
HZS7B-3



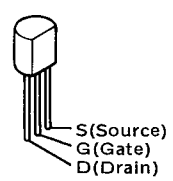
1SR-139-200



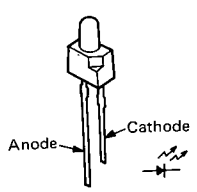
S4VB20



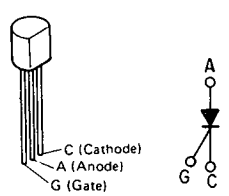
2SK369(BL)/(GR)-C
(FET)



SEL-4117R (Red)

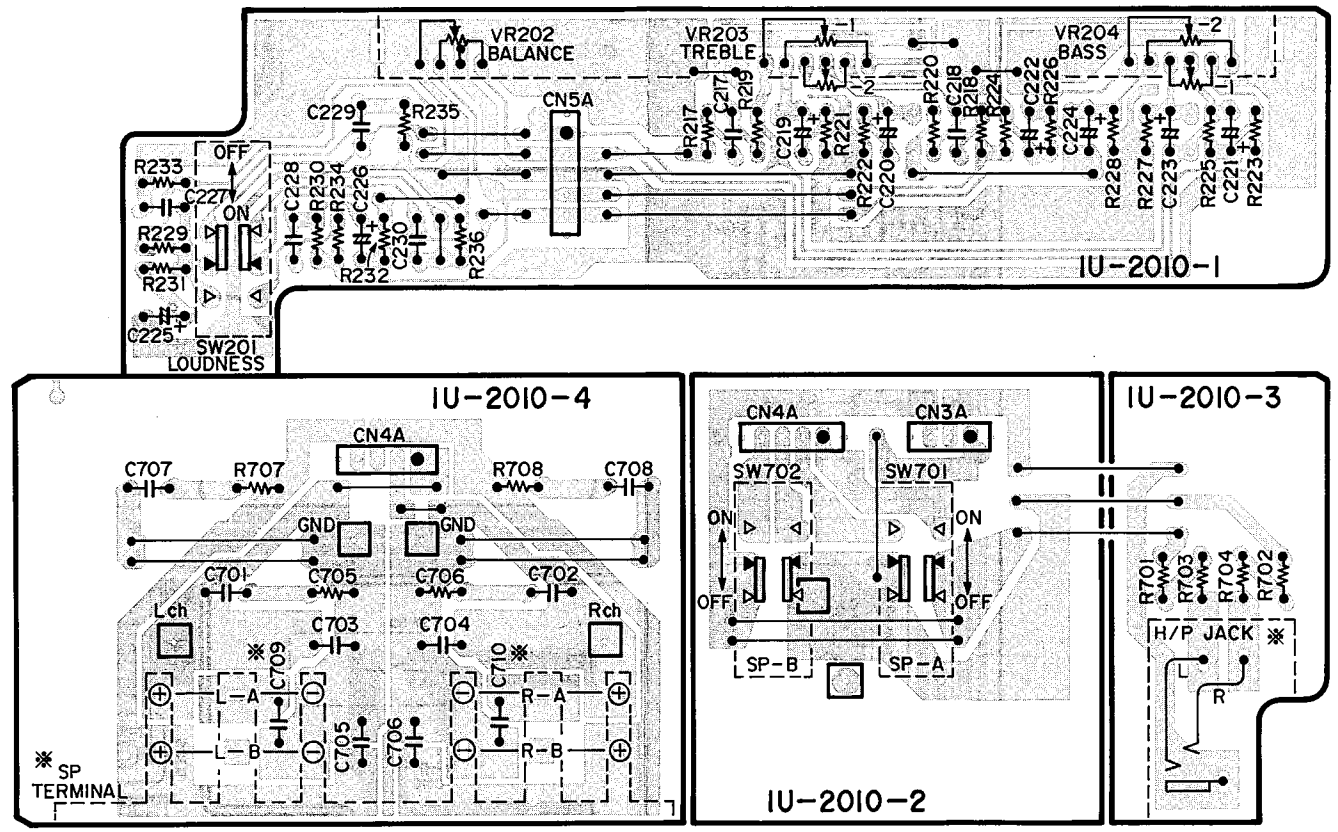


Thyrister
SFOR1A42



PRINTED WIRING BOARD (Pattern Side)

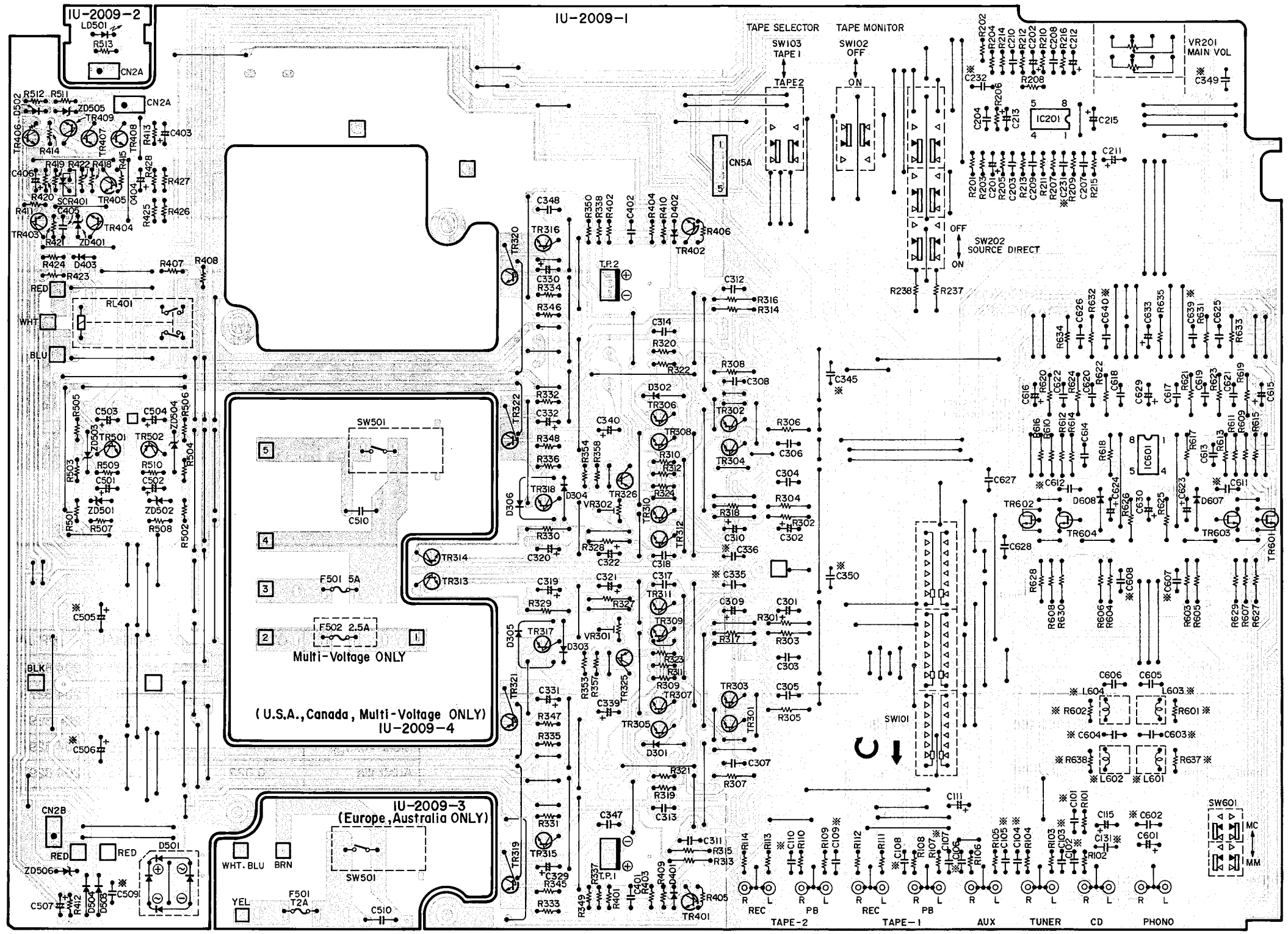
1U-2010 CONTROL UNIT



※

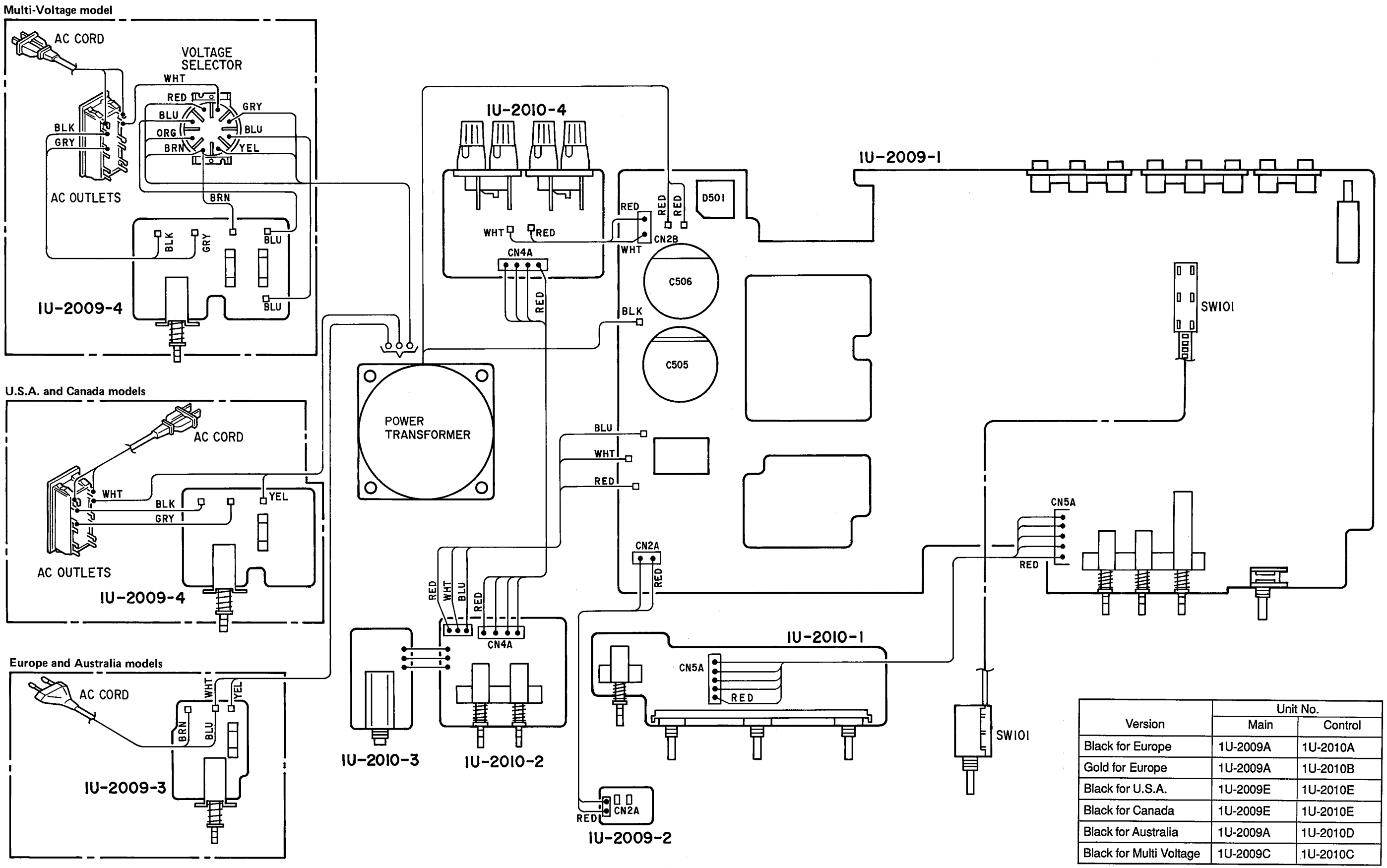
	C709, 710	SP TERMINAL	H/P JACK
Europe Black	0.022	205 0484 001	204 8297 006
Europe Gold	0.022	205 0484 001	204 8279 008
U.S.A., Canada	—	205 0472 000	204 8297 006
Multi-Voltage	—	205 0472 000	204 8297 006
Australia	0.022	205 0472 013	204 8297 006

1U-2009 POWER & CONTROL UNIT



	R601 R602	R637 R638	C101 C106	C107 C110	C131	C231 C232	C335 C336	C345	C349	C350	C509	C603 C604	C602	C607 C608	C611 C612	C639 C640	C709 C710	L601 L604	C505 C506
Europe Australia	470	470	56p	100p	0.01	33p	220p	0.022	100p	220p	0.1/250	47p	0.022	0.001	100p	0.01	0.022	150μH	10000 /56
U.S.A. Canada	Jumper	Jumper	—	—	—	—	—	—	—	—	0.0047 /500	—	—	—	—	—	—	—	8200 /56
Multi-Voltage	Jumper	Jumper	—	—	—	—	—	—	—	—	0.0047 /50	—	—	—	—	—	—	—	10000 /56

WIRING DIAGRAM



Version	Unit No.	
	Main	Control
Black for Europe	1U-2009A	1U-2010A
Gold for Europe	1U-2009A	1U-2010B
Black for U.S.A.	1U-2009E	1U-2010E
Black for Canada	1U-2009E	1U-2010E
Black for Australia	1U-2009A	1U-2010D
Black for Multi Voltage	1U-2009C	1U-2010C

NOTE FOR PARTS LIST

- Part indicated with the mark " ⊙ " are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

• Resistors

Ex.: RN 14K 2E 182 G FR

Type / Shape and performance / Power / Resistance / Allowable error / Others

RD : Carbon	2B : 1/8W	F : ±1%	P : Pulse-resistant type
RC : Fixed	2E : 1/4W	G : ±2%	NL : Low noise type
RS : Metallic film	2H : 1/2W	J : ±5%	NB : Non-burning type
RW : Winding	3A : 1W	K : ±10%	FR : Fuse resistor
RN : Metal film	3D : 2W	M : ±20%	F : Lead wire forming
RK : Metal mixture	3F : 3W		
	3H : 5W		

Resistance
1 8 2 ⇨ 1800Ω = 1.8kΩ
- 1 8 2: Indicates number of zeros after effective number
- 1 8: 2-digit effective number, decimal point indicated by R.
- Units: Ω

• Capacitors

Ex.: CE 04W 1H 2R2 M BP

Type / Shape and performance / Dielectric strength / Capacity / Allowable error / Others

CE : Aluminum foil electrolyte	0J : 6.3V	F : ±1%	HS : High stability type
CA : Aluminum solid electrolyte	1A : 10V	G : ±2%	BP : Non-polar type
CS : Tantalum electrolyte	1C : 16V	J : ±5%	HR : Ripple-resistant type
CQ : Film	1E : 25V	K : ±10%	DL : For charge and discharge
CK : Ceramic	1V : 35V	M : ±20%	HF : For assuring high frequency
CC : Ceramic	1H : 50V	Z : +80% −20%	U : UL part
CP : Oil	2A : 100V	P : +100% −0%	C : CSA part
CM : Mica	2B : 125V	C : ±0.25pF	W : UL-CSA type
CF : Metallized	2C : 160V	D : ±0.5pF	F : Lead wire forming
CH : Metallized	2D : 200V	= : Others	
	2E : 250V		
	2H : 500V		
	2J : 630V		

Capacity
2 R 2 ⇨ 2.2µF
- 2 R: 1-digit effective number, decimal point indicated by R.
- 2 2: 2-digit effective number, decimal point indicated by R.
- Units: µF, (for P, pF (µµF)
- When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

PARTS LIST 1U-2009A MAIN UNIT PARTS LIST

(for Europe Black, Gold Version and Australia Black Version)

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS			
IC201	265 0030 004	NJM4558D-D	IC
IC601	265 0030 004	NJM4558D-D	IC
TR301~304	271 0094 016	2SA970 (BL)	Transistor
TR305,306	271 0131 021	2SA988 (E/F)	Transistor
TR307~312	273 0235 020	2SC1841 (E/F)	Transistor
TR313,314	273 0198 002	2SC1815 (Y)	Transistor
TR315,316	274 0060 007	2SD667A (C)	Transistor
TR317,318	272 0053 005	2SB647A (C)	Transistor
TR325,326	271 0131 021	2SA988 (E/F)	Transistor
TR401,402	273 0235 020	2SC1841 (E/F)	Transistor
TR403	271 0094 032	2SA976 (BL/GR)	Transistor
TR404,405	273 0187 039	2SC2240 (BL/GR)	Transistor
TR406	269 0107 900	RN1241 (A/B)	D. Transistor
TR407	271 0191 003	2SA1048 (GR)	Transistor
TR408,409	273 0317 003	2SC2458 (BL)	Transistor
TR501	274 0151 003	2SD2004 (P)	Transistor
TR502	272 0107 003	2SB1328 (P)	Transistor
TR601~604	275 0038 045	2SK369 (BL)/(GR)-C	FET
D301~306	276 0049 011	1S2076A	Diode
D401~403	276 0432 903	1SS270A	Diode
D501	276 0305 001	S4VB20	Bridge Diode
D502	276 0432 903	1SS270A	Diode
D503,504	276 0552 906	1SR139-200	Diode
D607,608	276 0049 011	1S2076A	Diode
ZD401	276 0465 925	HZS7B-3	Zener Diode
ZD501,502	276 0477 913	HZS16-2	Zener Diode
ZD503,504	276 0221 923	HZ36-3	Zener Diode
ZD505	276 0465 925	HZS7B-3	Zener Diode
ZD506	276 0477 913	HZS16-2	Zener Diode
LD501	393 9420 907	SEL4117R	LED
SC401	279 0016 904	SF0R1A42	Thyristor
RESISTORS (not included Carbon Film ±5%, 1/4W Type)			
R237,238	245 2081 905	RN14K2E362G	3.6kΩ, 1/4W
R301,302	245 2116 906	RN14K2E104G	100kΩ, 1/4W
R303,304	245 2060 900	RN14K2E471G	470Ω, 1/4W
R305,306	245 2096 903	RN14k2E153G	15kΩ, 1/4W
R307,308	245 2060 900	RN14K2E471G	470Ω, 1/4W
⚠ R309~312	241 2380 963	RD14B2E222JNBS	2.2kΩ, 1/4W (N.B)
R313,314	245 2036 905	RN14K2E470G	47Ω, 1/4W
R315,316	245 2116 906	RN14K2E104G	100kΩ, 1/4W
R317,318	245 2064 906	RN14K2E681G	680Ω, 1/4W
⚠ R319~322	241 2377 976	RD14B2E131JNBS	130Ω, 1/4W (N.B)
⚠ R323,324	241 2315 967	RD14B2E680GFR	68Ω, 1/4W (Fusible)
R327,328	245 2083 903	RN14K2E432G	4.3kΩ, 1/4W
R329,330	245 2109 900	RN14K2E513G	51kΩ, 1/4W
⚠ R331,332	241 2378 920	RD14B2E221JNBS	220Ω, 1/4W (N.B)
⚠ R333~336	244 2043 982	RS14B3AR22JS (S)	0.22Ω, 1W (N.B)
⚠ R345~348	244 2043 982	RS14B3AR22JS (S)	0.22Ω, 1W (N.B)
⚠ R353,354	241 2387 940	RD14B2E4R7JNBS	4.7Ω, 1/4W (N.B)
⚠ R357,358	241 2432 905	RD14B2E471JNBP	470Ω, 1/4W (N.B)
⚠ R401~404	241 2380 950	RD14B2E202JNBS	2kΩ, 1/4W (N.B)
⚠ R423	244 2050 988	RS14B3A202JS (S)	2kΩ, 1W (N.B)
⚠ R424	244 2052 902	RS14B3A272JS (S)	2.7kΩ, 1W (N.B)
⚠ R501,502	241 2387 940	RD14B2E4R7JNBS	4.7Ω, 1/4W (N.B)
⚠ R505,506	244 2050 962	RS14B3A361JS (S)	360Ω, 1W (N.B)

Ref. No.	Part No.	Part Name	Remarks
R603,604	245 2044 900	RN14K2E101G	100Ω, 1/4W
R605,606	245 2108 901	RN14K2E473G	47kΩ, 1/4W
R607,608	245 2020 908	RN14K2E100G	10Ω, 1/4W
R609~612	245 2079 904	RN14K2E302G	3kΩ, 1/4W
R613,614	245 2051 906	RN14K2E201G	200Ω, 1/4W
R615,616	245 2075 908	RN14K2E202G	2kΩ, 1/4W
R619,620	245 2028 900	RN14K2E220G	22Ω, 1/4W
R621,622	245 2108 901	RN14K2E473G	47kΩ, 1/4W
R623,624	245 2082 904	RN14K2E392G	3.9kΩ, 1/4W
R625,626	245 2042 902	RN14K2E820G	82Ω, 1/4W
R631,632	245 2052 905	RN14K2E221G	220Ω, 1/4W
R633,634	245 2060 900	RN14K2E471G	470Ω, 1/4W
R635	245 2066 904	RN14K2E821G	820Ω, 1/4W
VR201	211 0641 001	Variable Resistor	30kΩ Main
VR301,302	211 6064 048	Semi Fixed Resistor	5kΩ
CAPACITORS			
(Ceramic Capacitor)			
C101~106	253 4537 089	CC45SL1H560J	56pF/50V D=3
C107~110	253 4538 046	CC45SL1H101J	100pF/50V D=3
C131	253 1024 003	CK45B1H103Z	0.01µF/50V
C203,204	253 4537 089	CC45SL1H560J	56pF/50V D=3
C207,208	253 1180 028	CK45B1H102K	1000pF/50V D=3
C209,210	253 1063 006	CK45B1H562K	5600pF/50V
C231,232	253 4537 021	CC45SL1H330J	33pF/50V D=3
C311,312	253 4536 022	CC45SL1H120J	12pF/50V D=3
C317,318	253 4470 007	CC45SL2H100D	10pF/500V
C335,336	253 1179 042	CK45B1H221K	220pF/50V D=3
C345	253 1025 002	CK45F1H223Z	0.022µF/50V
C349	253 4538 046	CC45SL1H101J	100pF/50V
C350	253 1179 042	CK45B1H221K	220pF/50V
C405	253 1025 002	CK45F1H223Z	0.022µF/50V
⚠ C510	253 8014 702	CK45F2GAC103MC	0.01µF/400V (AC)
C602	253 1025 002	CK45F1H223Z	0.022µF/50V
C603,604	253 4537 063	CC45SL1H470J	47pF/50V
C605,606	253 1179 026	CK45B1H151K	150pF/50V D=3
C611,612	253 4538 046	CC45SL1H101J	100pF/50V D=3
C639,640	253 1024 003	CK45F1H103Z	0.01µF/50V
(Electrolytic Capacitor)			
C111	254 4260 045	CE04W1H010M	1µF/50V
C115	254 4260 045	CE04W1H010M	1µF/50V
C201,202	254 4260 045	CE04W1H010M	1µF/50V
C211,212	254 4254 006	CE04W1C100M	10µF/16V
C213	254 4260 045	CE04W1H010M	1µF/50V
C215	254 4260 045	CE04W1H010M	1µF/50V
C301,302	254 4260 045	CE04W1H010M	1µF/50V
C309,310	254 4256 059	CE04W1E221M	220µF/25V
C319~322	254 4260 045	CE04W1H010M	1µF/50V
C329~332	254 4262 001	CE04W1J4R7M	4.7µF/63V
C339,340	254 4262 768	CE04W1J221MC	220µF/63V
C403	254 4250 042	CE04W0J331M	330µF/6.3V
C404	254 4252 037	CE04W1A101M	100µF/10V
C406	254 4252 008	CE04W1A220M	2.2µF/10V
C501,502	254 4261 028	CE04W1H101M	100µF/50V
C503,504	254 4260 045	CE04W1H010M	1µF/50V
C505,506	254 4365 704	CE04W==103MC(DL)	10000µF/56V
C507	254 4180 057	CE04W1J2R2M	2.2µF/63V

Ref. No.	Part No.	Part Name	Remarks
C601	254 4260 045	CE04W1H010M	1µF/50V
C615,616	254 4254 006	CE04W1C100M	10µF/16V
C623,624	254 4252 037	CE04W1A101M	100µF/10V
C629,630	254 4260 045	CE04W1H010M	1µF/50V
C633	254 4252 037	CE04W1A101M	100µF/10V
(Plastic Film Capacitor)			
C303,304	255 6177 948	CQ09S1H101J (SMT)	100pF/50V
C305,306	255 6177 980	CQ09S1H221J (SMT)	220pF/50V
C307,308	255 6178 963	CQ09S1H102J (SMT)	0.001µF/50V
C313,314	255 6178 963	CQ09S1H102J (SMT)	0.001µF/50V
C347,348	255 6177 980	CQ09S1H221J (SMT)	220pF/50V
C401,402	255 4199 973	CQ92M1H103J (SMT)	0.01µF/50V
C607,608	255 4199 986	CQ92M1H102J (MRZ)	0.001µF/50V
C613,614	255 6179 920	CQ09S1H332J (SMT)	0.0033µF/50V
C619,620	255 6178 976	CQ09S1H122J (SMT)	0.0012µF/50V
C621,622	255 4199 957	CQ92M1H183J (MRZ)	0.018µF/50V
C625-628	255 4199 986	CQ92M1H102J (MRZ)	0.001µF/50V
(Metalized Capacitor)			
C509	256 1042 000	CF93A2E104K	0.1µF/250V
C617,618	256 1034 050	CF93A1H683J	0.068µF/50V
E.U. PARTS			**Q'ty**
L601-604	235 9003 002	FTZ Choke Coil	4
⚠ F501	206 1015 061	Fuse 2A	1
	202 0022 008	Fuse Holder	2
⚠ SW501	212 1032 007	Power Switch TV-3	1
SW601	212 1043 009	1P Push Switch MM-MC	1
SW101	212 4647 004	Slide Switch (6-6) Remote Function	1
SW102,103 202	212 1025 001	3P Push Switch	1
RL401	214 0129 001	Relay (DH2TU)	1
	204 8266 008	4P Pin Jack (S-GND)	1
	204 8300 003	6P Pin Jack	2
OTHER PARTS			
⊙	—	(P.W. Board)	1S
	412 2988 006	Earth Plate H=23	1
TP-1,2	205 0190 036	3P NH Connector Base	2
CN5A	205 0233 058	5P EH Connector Base	1
CN2A,2B	205 0185 025	2P Wire Holder	3
CN2A	002 0011 037	2C Ribbon Cable	1
CN2B	002 0012 010	2C Ribbon Cable	1
	203 0363 032	1P SIN Conn. Ass'y	1
	203 0363 045	1P SIN Conn. Ass'y	1

1U-2010A CONTROL UNIT PARTS LIST
(for Europe Black Version)

Ref. No.	Part No.	Part Name	Remarks
RESISTORS (not included Carbon Film ±5%, 1/4W Type)			
⚠ R701-704	244 2050 933	RS14B3A181JS (S)	180Ω, 1W (N.B.)
⚠ R705-708	244 2043 937	RS14B3A100JS (S)	10Ω,1W (N.B.)
VR202-204	211 0642 000	Variable Resistor	
CAPACITORS			
(Ceramic Capacitor)			
C709,710	253 1025 002	CK45F1H223Z	0.022µF/50V
(Electrolytic Capacitor)			
C219,220	254 4260 016	CE04W1HR22M	0.22µF/50V
C221,222	254 4260 003	CE04W1H0R1M	0.1µF/50V
C223,224	254 4260 032	CE04W1HR47M	0.47µF/50V
C225,226	254 4260 029	CE04W1HR33M	0.33µF/50V
(Plastic Film Capacitor)			
C703-706	255 1251 940	CQ92M1H472J (MRZ)	0.0047µF/50V
(Metalized Capacitor)			
C217,218	256 1034 018	CF93A1H333J	0.033µF/50V
C227,228	256 1034 050	CF93A1H683J	0.068µF/50V
C229,230	256 1034 018	CF93A1H333J	0.033µF/50V
C701,702	256 1034 076	CF92A1H104J	0.1µF/50V
C707,708	256 1034 076	CF92A1H104J	0.1µF/50V
E.U. PARTS			**Q'ty**
SW201	212 9520 003	1P Push Switch Loud	1
SW701,702	212 1024 002	2P Push Switch SP-SW	1
*	204 8297 006	Headphone Jack	1
*	205 0484 001	8P SP Terminal	1
OTHER PARTS			
⊙	—	(P.W. Board)	1S
CN3A	205 0185 038	3P Wire Holder	1
CN4A	205 0185 041	4P Wire Holder	2
CN5A	205 0185 054	5P Wire Holder	1
CN4A	002 0018 014	4C Ribbon Cable	1
CN3A	002 0013 051	3C Ribbon Cable	1
CN5A	203 8218 066	5P EH Conn. Cord	1
	415 0546 012	UL Tube (8.3) BLK L=170	1

1U-2010D CONTROL UNIT PARTS LIST for Australia Version
(EXCEPT THE FOLLOWING 1U-2010A for Black Version)

Ref. No.	Part No.	Part Name	Remarks
E.U. PARTS			**Q'ty**
	205 0472 013	8P SP Terminal	1

1U-2010B CONTROL UNIT PARTS LIST for Europe Gold Version
(EXCEPT THE FOLLOWING 1U-2010A for Black Version)

Ref. No.	Part No.	Part Name	Remarks
E.U. PARTS			**Q'ty**
	204 8279 008	Headphone Jack	1

PARTS LIST 1U-2009E MAIN UNIT PARTS LIST
(for U.S.A. and Canada models)

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS			
IC201	265 0030 004	NJM4558D-D	IC
IC601	265 0030 004	NJM4558D-D	IC
TR301-304	271 0094 016	2SA970 (BL)	Transistor
TR305,306	271 0131 021	2SA988 (E/F)	Transistor
TR307-312	273 0235 020	2SC1841 (E/F)	Transistor
TR313,314	273 0198 002	2SC1815 (Y)	Transistor
TR315,316	274 0060 007	2SD667A (C)	Transistor
TR317,318	272 0053 005	2SB647A (C)	Transistor
TR325,326	271 0131 021	2SA988 (E/F)	Transistor
TR401,402	273 0235 020	2SC1841 (E/F)	Transistor
TR403	271 0094 032	2SA976 (BL/GR)	Transistor
TR404,405	273 0187 039	2SC2240 (BL/GR)	Transistor
TR406	269 0107 900	RN1241 (A/B)	D. Transistor
TR407	271 0191 003	2SA1048 (GR)	Transistor
TR408,409	273 0317 003	2SC2458 (BL)	Transistor
TR501	274 0051 003	2SD2004 (P)	Transistor
TR502	272 0107 003	2SB1328 (P)	Transistor
TR601-604	275 0038 045	2SK369 (BL)/(GR)-C	FET
D301-306	276 0049 011	1S2076A	Diode
D401-403	276 0432 903	1SS270A	Diode
D501	276 0305 001	S4VB20	Bridge Diode
D502	276 0432 903	1SS270A	Diode
D503,504	276 0552 906	1SR139-200	Diode
D607,608	276 0049 011	1S2076A	Diode
ZD401	276 0465 925	HZS7B-3	Zener Diode
ZD501,502	276 0477 913	HZS16-2	Zener Diode
ZD503,504	276 0221 923	HZ36-3	Zener Diode
ZD505	276 0465 925	HZS7B-3	Zener Diode
ZD506	276 0477 913	HZS16-2	Zener Diode
LD501	393 9420 907	SEL4117R	LED
SC401	279 0016 904	SF0R1A42	Thyristor
RESISTORS (not included Carbon Film ±5%, 1/4W Type)			
R237,238	245 2081 905	RN14K2E362G	3.6kΩ, 1/4W
R301,302	245 2116 906	RN14K2E104G	100kΩ, 1/4W
R303,304	245 2060 900	RN14K2E471G	470Ω, 1/4W
R305,306	245 2096 903	RN14K2E153G	15kΩ, 1/4W
R307,308	245 2060 900	RN14K2E471G	470Ω, 1/4W
⚠ R309-312	241 2380 963	RD14B2E222JNBS	2.2kΩ, 1/4W (N.B)
R313,314	245 2036 905	RN14K2E470G	47Ω, 1/4W
R315,316	245 2116 906	RN14K2E104G	100kΩ, 1/4W
R317,318	245 2064 906	RN14K2E681G	680Ω, 1/4W
⚠ R319-322	241 2377 976	RD14B2E131JNBS	130Ω, 1/4W (N.B)
⚠ R323,324	241 2315 967	RD14B2E680GFR	68Ω, 1/4W (Fusible)
R327,328	245 2083 903	RN14K2E432G	4.3kΩ, 1/4W
R329,330	245 2109 900	RN14K2E513G	51kΩ, 1/4W
⚠ R331,332	241 2378 920	RD14B2E221JNBS	220Ω, 1/4W (N.B)
⚠ R333-336	244 2043 982	RS14B3AR22JS (S)	0.22Ω, 1W (N.B)
⚠ R345-348	244 2043 982	RS14B3AR22JS (S)	0.22Ω, 1W (N.B)
⚠ R353,354	241 2387 940	RD14B2E4R7JNBS	4.7Ω, 1/4W (N.B)
⚠ R357,358	241 2432 905	RD14B2E471JNBS	470Ω, 1/4W (N.B)
⚠ R401-404	241 2380 950	RD14B2E202JNBS	2kΩ, 1/4W (N.B)
⚠ R423	244 2050 980	RS14B3A202JS (S)	2kΩ, 1W (N.B)
⚠ R424	244 2052 902	RS14B3A272JS (S)	2.7kΩ, 1W (N.B)

Ref. No.	Part No.	Part Name	Remarks
⚠ R501,502	241 2387 940	RD14B2E4R7JNBS	4.7Ω, 1/4W (N.B)
⚠ R505,506	244 2050 962	RS14B3A361JS (S)	360Ω, 1W (N.B)
R603,604	245 2044 900	RN14K2E101G	100Ω, 1/4W
R605,606	245 2108 901	RN14K2E473G	47kΩ, 1/4W
R607,608	245 2020 908	RN14K2E100G	10Ω, 1/4W
R609-612	245 2079 904	RN14K2E302G	3kΩ, 1/4W
R613,614	245 2051 906	RN14K2E201G	200Ω, 1/4W
R615,616	245 2075 908	RN14K2E202G	2kΩ, 1/4W
R619,620	245 2028 900	RN14K2E220G	22Ω, 1/4W
R621,622	245 2108 901	RN14K2E473G	47kΩ, 1/4W
R623,624	245 2082 904	RN14K2E392G	3.9kΩ, 1/4W
R625,626	245 2042 902	RN14K2E820G	82Ω, 1/4W
R631,632	245 2052 905	RN14K2E221G	220Ω, 1/4W
R633,634	245 2060 900	RN14K2E471G	470Ω, 1/4W
R635	245 2066 904	RN14K2E821G	820Ω, 1/4W
VR201	211 0641 001	Variable Resistor	30kΩ Main
VR301,302	211 6064 048	Semi Fixed Resistor	5kΩ
CAPACITORS			
(Ceramic Capacitor)			
C203,204	253 4537 089	CC45SL1H560J	56pF/50V D=3
C207,208	253 1180 028	CK45B1H102K	1000pF/50V D=3
C209,210	253 1063 006	CK45B1H562K	5600pF/50V
C311,312	253 4536 022	CC45SL1H120J	12pF/50V D=3
C317,318	253 4470 007	CC45SL2H100D	10pF/500V
C405	253 1025 002	CK45F1H223Z	0.022µF/50V
C509	253 1151 905	CK45E2H472P	4700pF/500V
⚠ C510	253 8014 702	CK45F2GAC103MC	0.01µF/400V (AC)
C605,606	253 1179 026	CK45B1H151K	150pF/50V D=3
(Electrolytic Capacitor)			
C111	254 4260 045	CE04W1H010M	1µF/50V
C115	254 4260 045	CE04W1H010M	1µF/50V
C201,202	254 4260 045	CE04W1H010M	1µF/50V
C211,212	254 4254 006	CE04W1C100M	10µF/16V
C213	254 4260 045	CE04W1H010M	1µF/50V
C215	254 4260 045	CE04W1H010M	1µF/50V
C301,302	254 4260 045	CE04W1H010M	1µF/50V
C309,310	254 4256 059	CE04W1E221M	220µF/25V
C319-322	254 4260 045	CE04W1H010M	1µF/50V
C329-332	254 4262 001	CE04W1J4R7M	4.7µF/63V
C339,340	254 4262 768	CE04W1J221M	220µF/63V
C403	254 4250 042	CE04W0J331M	330µF/6.3V
C404	254 4252 037	CE04W1A101M	100µF/10V
C406	254 4252 008	CE04W1A220M	2.2µF/10V
C501,502	254 4261 028	CE04W1H101M	100µF/50V
C503,504	254 4260 045	CE04W1H010M	1µF/50V
C505,506	254 4365 704	CE04W==103MC(DL)	10000µF/56V
C507	254 4180 057	CE04W1J2R2M	2.2µF/63V
C601	254 4260 045	CE04W1H010M	1µF/50V
C615,616	254 4254 006	CE04W1C100M	10µF/16V
C623,624	254 4252 037	CE04W1A101M	100µF/10V
C629,630	254 4260 045	CE04W1H010M	1µF/50V
C633	254 4252 037	CE04W1A101M	100µF/10V

1U-2010E CONTROL UNIT PARTS LIST
(for U.S.A. and Canada models)

Ref. No.	Part No.	Part Name	Remarks
(Plastic Film Capacitor)			
C303,304	255 6177 948	CQ09S1H101J (SMT)	100pF/50V
C305,306	255 6177 980	CQ09S1H221J (SMT)	220pF/50V
C307,308	255 6178 963	CQ09S1H102J (SMT)	0.001µF/50V
C313,314	255 6178 963	CQ09S1H102J (SMT)	0.001µF/50V
C347,348	255 6177 980	CQ09S1H221J (SMT)	220p/50V
C401,402	255 4199 973	CQ92M1H103J (MRZ)	0.01µF/50V
C613,614	255 6179 920	CQ09S1H332J (SMT)	0.0033µF/50V
C619,620	255 6178 976	CQ09S1H122J (SMT)	0.0012µF/50V
C621,622	255 4199 957	CQ92M1H183J (MRZ)	0.018µF/50V
C625~628	255 4199 986	CQ92M1H102J (MRZ)	0.001µF/50V
(Metalized Capacitor)			
C617,618	256 1034 050	CF93A1H683J	0.068µF/50V
E.U. PARTS			Q'ty
⚠ F501	206 1015 061	Fuse 2A	1
	202 0022 008	Fuse Holder	2
⚠ SW501	212 1030 009	Power Switch	TV-3 1
SW601	212 1043 009	1P Push Switch	MM-MC 1
SW101	212 4647 004	Slide Switch (6-6)	Remote 1
			Function
SW102,103	212 1025 001	3P Push Switch	1
202			
RL401	214 0129 001	Relay (DH2TU)	1
	204 8266 008	4P Pin Jack (S-GND)	1
	204 8300 003	6P Pin Jack	2
OTHER PARTS			
⊙	—	(P.W. Board)	1S
	412 2988 006	Earth Plate	H=23 1
TP-1,2	205 0190 036	3P NH Connector Base	TP-1,2 2
CN5A	205 0233 058	5P EH Connector Base	1
CN2A,2B	205 0185 025	2P Wire Holder	3
CN2A	002 0011 037	2C Ribbon Cable	1
CN2B	002 0012 010	2C Ribbon Cable	1

Ref. No.	Part No.	Part Name	Remarks
RESISTORS (not included Carbon Film ±5%, 1/4W Type)			
⚠ R701~704	244 2050 933	RS14B3A181JS (S)	180Ω, 1W (N.B.)
⚠ R705~708	244 2043 937	RS14B3A100JS (S)	10Ω,1W (N.B.)
VR202~204	211 0642 000	Variable Resistor	
CAPACITORS			
(Ceramic Capacitor)			
C709,710	253 1148 905	CK45F1H223Z	0.022µF/50V
(Electrolytic Capacitor)			
C219,220	254 4260 016	CE04W1HR22M	0.22µF/50V
C221,222	254 4260 003	CE04W1H0R1M	0.1µF/50V
C223,224	254 4260 032	CE04W1HR47M	0.47µF/50V
C225,226	254 4260 029	CE04W1HR33M	0.33µF/50V
(Plastic Film Capacitor)			
C703~706	255 1251 940	CQ92M1H472J (MRZ)	0.0047µF/50V
(Metalized Capacitor)			
C217,218	256 1034 018	CF93A1H333J	0.033µF/50V
C227,228	256 1034 050	CF93A1H683J	0.068µF/50V
C229,230	256 1034 018	CF93A1H333J	0.033µF/50V
C701,702	256 1034 076	CF93A1H104J	0.1µF/50V
C707,708	256 1034 076	CF93A1H104J	0.1µF/50V
E.U. PARTS			Q'ty
SW201	212 9520 003	1P Push Switch	Loud 1
SW701,702	212 1024 002	2P Push Switch	SP-SW 1
	204 8297 006	Headphone Jack	1
	205 0484 001	8P SP Terminal	1
OTHER PARTS			
⊙	—	(P.W. Board)	1S
CN3A	205 0185 038	3P Wire Holder	1
CN4A	205 0185 041	4P Wire Holder	2
CN5A	205 0185 054	5P Wire Holder	1
CN4A	002 0018 014	4C Ribbon Cable	1
CN5A	203 8218 066	5P EH Conn. Cord	1
	415 0546 012	VL Tube (8.3)	BLK L=170 1
	002 0013 006	3C Ribbon Cable	L=270 1

PARTS LIST 1U-2009C MAIN UNIT PARTS LIST
(for Multi-Voltage model)

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS			
IC201	265 0030 004	NJM4558D-D	IC
IC601	265 0030 004	NJM4558D-D	IC
TR301~304	271 0094 016	2SA970 (BL)	Transistor
TR305,306	271 0131 021	2SA988 (E/F)	Transistor
TR307~312	273 0235 020	2SC1841 (E/F)	Transistor
TR313,314	273 0198 002	2SC1815 (Y)	Transistor
TR315,316	274 0060 007	2SD667A (C)	Transistor
TR317,318	272 0053 005	2SB647A (C)	Transistor
TR325,326	271 0131 021	2SA988 (E/F)	Transistor
TR401,402	273 0235 020	2SC1841 (E/F)	Transistor
TR403	271 0094 032	2SA976 (BL/GR)	Transistor
TR404,405	273 0187 039	2SC2240 (BL/GR)	Transistor
TR406	269 0107 900	RN1241 (A/B)	D. Transistor
TR407	271 0191 003	2SA1048 (GR)	Transistor
TR408,409	273 0317 003	2SC2458 (BL)	Transistor
TR501	274 0051 003	2SD2004 (P)	Transistor
TR502	272 0107 003	2SB1328 (P)	Transistor
TR601~604	275 0038 045	2SK369 (BL)/(GR)-C	FET
D301~306	276 0049 011	1S2076A	Diode
D401~403	276 0432 903	1SS270A	Diode
D501	276 0305 001	S4VB20	Bridge Diode
D502	276 0432 903	1SS270A	Diode
D503,504	276 0552 906	1SR139-200	Diode
D607,608	276 0049 011	1S2076A	Diode
ZD401	276 0465 925	HZS7B-3	Zener Diode
ZD501,502	276 0477 913	HZS16-2	Zener Diode
ZD503,504	276 0221 923	HZ36-3	Zener Diode
ZD505	276 0465 925	HZS7B-3	Zener Diode
ZD506	276 0477 913	HZS16-2	Zener Diode
LD501	393 9420 907	SEL4117R	LED
SC401	279 0016 904	SF0R1A42	Thyristor
RESISTORS (not included Carbon Film ±5%, 1/4W Type)			
R237,238	245 2081 905	RN14K2E362G	3.6kΩ, 1/4W
R301,302	245 2116 906	RN14K2E104G	100kΩ, 1/4W
R303,304	245 2060 900	RN14K2E471G	470Ω, 1/4W
R305,306	245 2096 903	RN14k2E153G	15kΩ, 1/4W
R307,308	245 2060 900	RN14K2E471G	470Ω, 1/4W
⚠ R309~312	241 2380 963	RD14B2E222JNBS	2.2kΩ, 1/4W (N.B)
R313,314	245 2036 905	RN14K2E470G	47Ω, 1/4W
R315,316	245 2116 906	RN14K2E104G	100kΩ, 1/4W
R317,318	245 2064 906	RN14K2E681G	680Ω, 1/4W
⚠ R319~322	241 2377 976	RD14B2E131JNBS	130Ω, 1/4W (N.B)
⚠ R323,324	241 2315 967	RD14B2E680GFR	68Ω, 1/4W (Fusible)
R327,328	245 2083 903	RN14K2E432G	4.3kΩ, 1/4W
R329,330	245 2109 900	RN14K2E513G	51kΩ, 1/4W
⚠ R331,332	241 2378 920	RD14B2E221JNBS	220Ω, 1/4W (N.B)
⚠ R333~336	244 2043 982	RS14B3AR22JS (S)	0.22Ω, 1W (N.B)
⚠ R345~348	244 2043 982	RS14B3AR22JS (S)	0.22Ω, 1W (N.B)
⚠ R353,354	241 2387 940	RD14B2E4R7JNBS	4.7Ω, 1/4W (N.B)
⚠ R357,358	241 2432 905	RD14B2E471JNBP	470Ω, 1/4W (N.B)
⚠ R401~404	241 2380 950	RD14B2E202JNBS	2kΩ, 1/4W (N.B)
⚠ R423	244 2050 988	RS14B3A202JS (S)	2kΩ, 1W (N.B)
⚠ R424	244 2052 902	RS14B3A272JS (S)	2.7kΩ, 1W (N.B)
⚠ R501,502	241 2387 940	RD14B2E4R7JNBS	4.7Ω, 1/4W (N.B)

Ref. No.	Part No.	Part Name	Remarks
⚠ R505,506	244 2050 962	RS14B3A361JS (S)	360Ω, 1W (N.B)
R603,604	245 2044 900	RN14K2E101G	100Ω, 1/4W
R605,606	245 2108 901	RN14K2E473G	47kΩ, 1/4W
R607,608	245 2020 908	RN14K2E100G	10Ω, 1/4W
R609~612	245 2079 904	RN14K2E302G	3kΩ, 1/4W
R613,614	245 2051 906	RN14K2E201G	200Ω, 1/4W
R615,616	245 2075 908	RN14K2E202G	2kΩ, 1/4W
R619,620	245 2028 900	RN14K2E220G	22Ω, 1/4W
R621,622	245 2108 901	RN14K2E473G	47kΩ, 1/4W
R623,624	245 2082 904	RN14K2E392G	3.9kΩ, 1/4W
R625,626	245 2042 902	RN14K2E820G	82Ω, 1/4W
R631,632	245 2052 905	RN14K2E221G	220Ω, 1/4W
R633,634	245 2060 900	RN14K2E471G	470Ω, 1/4W
R635	245 2066 904	RN14K2E821G	820Ω, 1/4W
VR201	211 0641 001	Variable Resistor	30kΩ Main
VR301,302	211 6064 048	Semi Fixed Resistor	5kΩ
CAPACITORS			
(Ceramic Capacitor)			
C203,204	253 4537 089	CC45SL1H560J	56pF/50V D=3
C207,208	253 1180 028	CK45B1H102K	1000pF/50V D=3
C209,210	253 1063 006	CK45B1H562K	5600pF/50V
C311,312	253 4536 022	CC45SL1H120J	12pF/50V D=3
C317,318	253 4470 007	CC45SL2H100D	10pF/500V
C405	253 1025 002	CK45F1H223Z	0.022µF/50V
C509	253 1151 905	CK45E2H472P	4700pF/500V
⚠ C510	253 8014 702	CK45F2GAC103MC	0.01µF/400V (AC)
C605,606	253 1179 026	CK45B1H151K	150pF/50V D=3
(Electrolytic Capacitor)			
C111	254 4260 045	CE04W1H010M	1µF/50V
C115	254 4260 045	CE04W1H010M	1µF/50V
C201,202	254 4260 045	CE04W1H010M	1µF/50V
C211,212	254 4254 006	CE04W1C100M	10µF/16V
C213	254 4260 045	CE04W1H010M	1µF/50V
C215	254 4260 045	CE04W1H010M	1µF/50V
C301,302	254 4260 045	CE04W1H010M	1µF/50V
C309,310	254 4256 059	CE04W1E221M	220µF/25V
C319~322	254 4260 045	CE04W1H010M	1µF/50V
C329~332	254 4262 001	CE04W1J4R7M	4.7µF/63V
C339,340	254 4262 768	CE04W1H221M	220µF/63V
C403	254 4250 042	CE04W0J331M	330µF/6.3V
C404	254 4252 037	CE04W1A101M	100µF/10V
C406	254 4252 008	CE04W1A220M	2.2µF/10V
C501,502	254 4261 028	CE04W1H101M	100µF/50V
C503,504	254 4260 045	CE04W1H010M	1µF/50V
C505,506	254 4365 704	CE04W==103MC(DL)	10000µF/56V
C507	254 4180 057	CE04W1J2R2M	2.2µF/63V
C601	254 4260 045	CE04W1H010M	1µF/50V
C615,616	254 4254 006	CE04W1C100M	10µF/16V
C623,624	254 4252 037	CE04W1A101M	100µF/10V
C629,630	254 4260 045	CE04W1H010M	1µF/50V
C633	254 4252 037	CE04W1A101M	100µF/10V

1U-2010C CONTROL UNIT PARTS LIST
(for Multi-Voltage model)

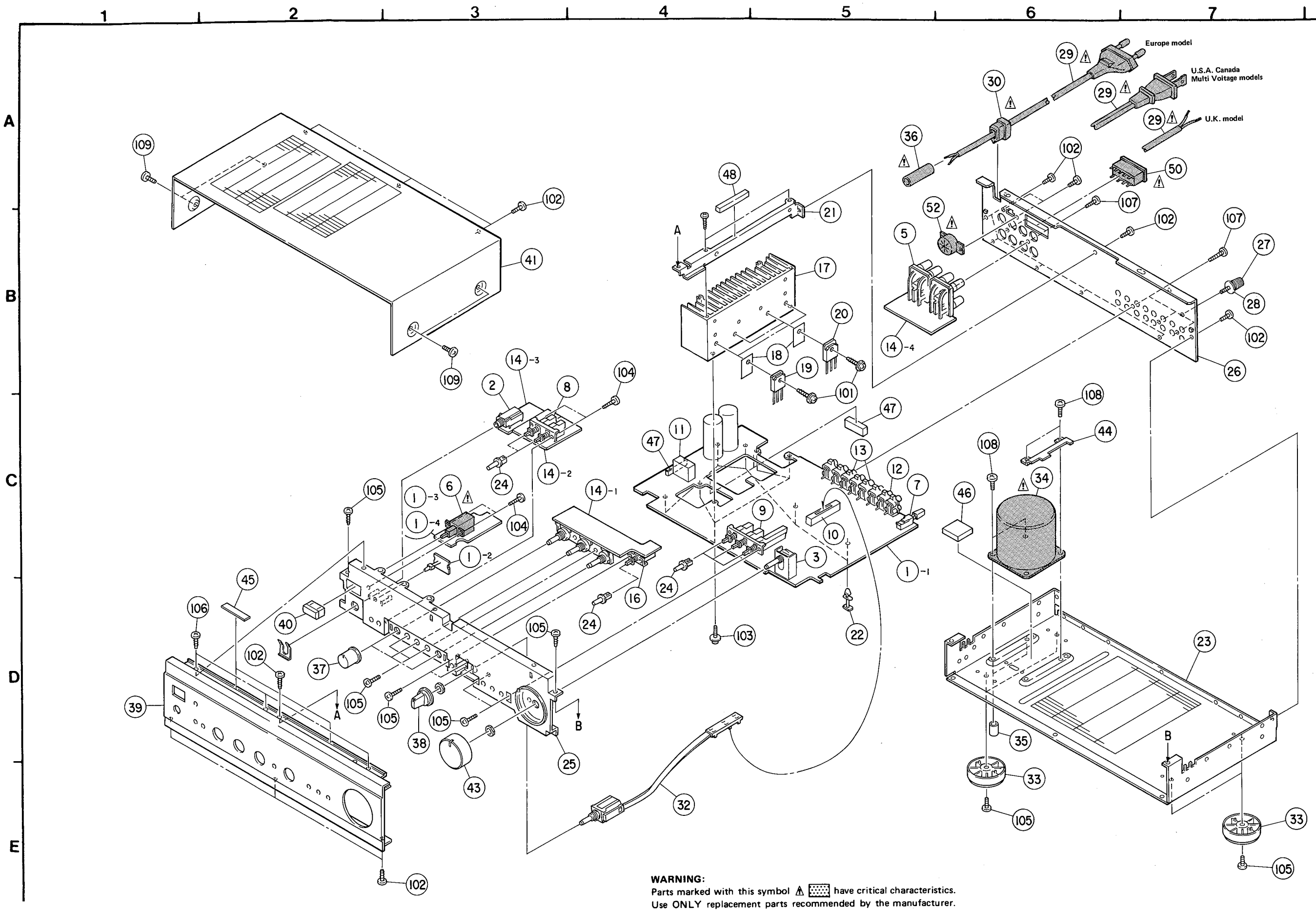
Ref. No.	Part No.	Part Name	Remarks
(Plastic Film Capacitor)			
C303,304	255 6177 948	CQ09S1H101J (SMT)	100pF/50V
C305,306	255 6177 980	CQ09S1H221J (SMT)	220pF/50V
C307,308	255 6178 963	CQ09S1H102J (SMT)	0.001μF/50V
C313,314	255 6178 963	CQ09S1H102J (SMT)	0.001μF/50V
C347,348	255 6177 980	CQ09S1H221J (SMT)	220pF/50V
C401,402	255 4199 973	CQ92M1H103J (MRZ)	0.01μF/50V
C613,614	255 6179 920	CQ09S1H332J (SMT)	0.0033μF/50V
C619,620	255 6178 976	CQ09S1H122J (SMT)	0.0012μF/50V
C621,622	255 4199 957	CQ92M1H183J (MRZ)	0.018μF/50V
C625-628	255 4199 986	CQ92M1H102J (MRZ)	0.001μF/50V
(Metalized Capacitor)			
C617,618	256 1034 050	CF93A1H683J	0.068μF/50V
E.U. PARTS			**Q'ty**
⚠ F801	206 1061 015	Fuse 2.5A (250V)	1
⚠ F802	206 1061 044	Fuse 5A (250V)	1
	202 0022 008	Fuse Holder	4
⚠ SW501	212 1030 009	Power Switch TV-5	1
SW601	212 1043 009	1P Push Switch MM-MC	1
SW101	212 4647 004	Slide Switch (6-6) Remote Function	1
SW102,103 202	212 1025 001	3P Push Switch	1
RL401	214 0129 001	Relay (DH2TU)	1
	204 8266 008	4P Pin Jack (S-GND)	1
	204 8300 003	6P Pin Jack	2
OTHER PARTS			
⊙	—	(P.W. Board)	1[S]
	412 2988 006	Earth Plate H=23	1
TP-1,2	205 0190 036	3P NH Connctor Base TP-1,2	2
CN5A	205 0233 058	5P EH Connector Base	1
CN2A,2B	205 0185 025	2P Wire Holder	3
CN2A	002 0011 037	2C Ribbon Cable	1
CN2B	002 0012 010	2C Ribbon Cable	1

Ref. No.	Part No.	Part Name	Remarks
RESISTORS (not included Carbon Film ±5%, 1/4W Type)			
⚠ R701~704	244 2050 933	RS14B3A181JS (S)	180Ω, 1W (N.B.)
⚠ R705~708	244 2043 937	RS14B3A100JS (S)	10Ω,1W (N.B.)
VR202~204	211 0642 000	Variable Resistor	
CAPACITORS			
(Electrolytic Capacitor)			
C219,220	254 4260 016	CE04W1HR22M	0.22μF/50V
C221,222	254 4260 003	CE04W1H0R1M	0.1μF/50V
C223,224	254 4260 032	CE04W1HR47M	0.47μF/50V
C225,226	254 4260 029	CE04W1HR33M	0.33μF/50V
(Plastic Film Capacitor)			
C703~706	255 1251 940	CQ92M1H472J (MRZ)	0.0047μF/50V
(Metalized Capacitor)			
C217,218	256 1034 018	CF93A1H333J	0.033μF/50V
C227,228	256 1034 050	CF93A1H683J	0.068μF/50V
C229,230	256 1034 018	CF93A1H333J	0.033μF/50V
C701,702	256 1034 076	CF93A1H104J	0.1μF/50V
C707,708	256 1034 076	CF93A1H104J	0.1μF/50V
E.U. PARTS			**Q'ty**
SW201	212 9520 003	1P Push Switch Loud	1
SW701,702	212 1024 002	2P Push Switch (SP)	1
	204 8297 006	Headphone Jack	1
	205 0472 000	8P SP Terminal	1
OTHER PARTS			
⊙	—	(P.W. Board)	1[S]
CN3A	205 0185 038	3P Wire Holder	1
CN4A	205 0185 041	4P Wire Holder	2
CN5A	205 0185 054	5P Wire Holder	1
CN4A	002 0018 014	4C Ribbon Cable	1
CN5A	203 8218 066	5P EH Conn. Cord	1
	415 0546 012	UL Tube (8.3) BLK L=170	1
	002 0013 006	3C Ribbon Cable L=270	1

- NOTE FOR PARTS LIST
- Part indicated with the mark "⊙" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "l" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

EXPLODED VIEW OF CHASSIS AND CABINET



EXPLODED VIEW OF CHASSIS AND CABINET

Ref. No.	Part No.	Part Name	Remarks	Q'ty
◉ 1	1U-2009A	Main Unit		1S
1-1	Note	Main Unit		
1-2	Note	LED Unit		
1-3	Note	Power SW Unit		
1-4	Note	Power SW Unit		
2	Note	Head Phone Jack		1
3	211 0641 001	Variable Resistor	30kΩ Main	1
⚠ 4	Note	Fuse (2A)		1
5	Note	8P SP Terminal		1
⚠ 6	Note	Power Switch	SW501 (Power)	1
7	212 1043 009	1P Push Switch	SW601 (MM-MC)	1
8	212 1024 002	2P Push Switch	SW701 (SP)	1
9	212 1025 001	3P Push Switch	SW102,103,202	1
10	212 4647 004	Slide SW (6-6) Remote	SW101	1
11	214 0129 001	Relay	RL401	1
12	204 8266 008	4P Pin Jack (S-GND)		1
13	204 8300 003	6P Pin Jack		2
◉ 14	1U-2010A	Control Unit		1S
14-1	Note	Control Unit		
14-2	Note	SP SW Unit		
14-3	Note	H/P Unit		
14-4	Note	Speaker Unit		
15	211 0642 000	Variable Resistor		1
16	212 9520 003	1P Push Switch	SW201	1
17	417 0393 106	Power Radiator		1
18	415 0234 007	Insulating Sheet		4
19	273 0389 028	Transistor 2SC3855LC (O/P/Y) (Z)	TR319,320	2
20	271 0240 022	Transistor 2SA1491LC (O/P/Y) (Z)	TR321,322	2
◉ 21	412 2975 006	Radiator Bracket		1
◉ 22	412 2814 015	Card Spacer (L=14)		6
23	411 0941 107	Chassis		1
24	Note	Push Knob (Maru)		6
25	Note	Inner Panel		1
26	Note	Back Panel		1
27	205 0071 016	Terminal Ass'y		1
28	477 0018 001	Washer (P-87)		1
⚠ 29	Note	AC Cord		1
⚠ 30	445 0056 008	Cord Bush		1
31	Note	Masking Sheet		1
32	212 0317 008	Rotary Remote Switch		1
33	104 0194 001	Foot Ass'y		4
⚠ 34	Note	Power Trans		1
35	462 0094 007	Screw Tube		1
36	415 0364 032	UL Tube (8.3)		2
37	Note	Knob (Maru)		3
38	Note	Knob (Fuji)		1
39	Note	Front Panel		1
40	Note	P. Knob (P) Ass'y		1
41	Note	Top Cover		1
42	513 1581 008	Serial No. Sheet		1
43	Note	Knob Ass'y	(VR)	1
◉ 44	412 3054 104	P.W.B. Bracket		1
45	122 0183 007	Spacer		2
46	461 0574 003	Rubber Sheet		1
47	461 0574 016	Rubber Sheet		3
48	461 0334 007	Rubber Sheet		1
49	445 8004 007	Wire Clamper		5
50				
51				

Ref. No.	Part No.	Part Name	Remarks	Q'ty
SCREWS				
101	473 8007 009	Cup Screw 3x12		4
102	Note	Tapping Screw (S) 3x8	Black	16
103	473 8009 025	Cup Screw 3x8		4
104	473 7508 004	Tapping Screw (P) 3x6	Black	4
105	473 7002 018	Tapping Screw (S) 3x8		7
106	473 7508 017	Tapping Screw (P) 3x10	Black	6
107	477 0064 107	Fixing Screw		9
108	473 7004 003	Tapping Screw (S) 4x8		4
109	Note	3P Swelling Screw		4
110				
111				
PACKING & ACCESSORIES (not included EXPLODED VIEW)				
◉ 201	511 1944 005	Inst. Manual		1
◉ 202	504 0079 012	Styrene Paper		1
◉ 203	505 0075 006	Cabinet Cover		1
◉ 204	504 0092 060	Styrene Paper		1
◉ 205	503 0858 104	Cushion		2
◉ 206	501 1423 008	Carton Case		1
◉ 207	513 1389 006	Control Card Base		1
◉ 208	513 1349 004	Thermal Carbon Film		1
◉ 209	502 0741 027	Pad		1

ADDENDUM LIST

Ref. No.	Part Name & Descriptions	Part No. Europe Black	Europe Gold	U.S.A. Black	Canada Black	Multi-Voltage Black	Australia Black
◎ 1	Main Unit	1U-2009A	1U-2009A	1U-2009E	1U-2009E	1U-2009C	1U-2009A
1-1	Main Unit	O	O	O	O	O	O
1-2	LED Unit	O	O	O	O	O	O
1-3	Power SW Unit	O	O	—	—	—	O
1-4	Power SW Unit	—	—	O	O	O	—
2	Headphone Jack	204 8297 006	204 8279 008	204 8297 006	204 8297 006	204 8297 006	204 8297 006
⚠ 4	Fuse (F501)	206 1015 061 (2A)	206 1015 061 (2A)	206 1046 027 (5A)	206 1046 027 (5A)	206 1061 044 (5A [250V])	206 1015 061 (2A)
5	8P SP Terminal	205 0484 001	205 0484 001	205 0484 001	205 0484 001	205 0472 000	205 0472 013
⚠ 6	Power Switch	212 1032 007	212 1032 007	212 1030 009	212 1030 009	212 1030 009	212 1032 007
◎ 14	Control Unit	1U-2010A	1U-2010B	1U-2010E	1U-2010E	1U-2010C	1U-2010D
14-1	Control Unit	O	O	O	O	O	O
14-2	SP SW Unit	O	O	O	O	O	O
14-3	H/P Unit	O	O	O	O	O	O
14-4	Speaker Unit	O	O	O	O	O	O
24	Push Knob (MARU) (6)	113 1179 100	113 1179 126	113 1179 100	113 1179 100	113 1179 100	113 1179 100
25	Inner Panel	146 1123 004	146 1123 017	146 1123 004	146 1123 004	146 1123 004	146 1123 004
26	Back Panel	105 0886 105	105 0886 105	105 0886 163	105 0886 150	105 0886 147	105 0886 134
⚠ 29	AC Cord	206 2063 009	206 2063 009	206 2060 002	206 2060 002	206 2054 005	206 2025 005
31	Masking Sheet	513 1144 005	513 1144 005	—	—	—	—
⚠ 34	Power Trans	233 5788 008	233 5788 008	233 5791 008	233 5791 008	233 5790 009	233 5789 007
37	Knob (MARU) (3)	112 0533 045	112 0533 032	112 0533 045	112 0533 045	112 0533 045	112 0533 045
38	Knob (FUJI)	112 0534 028	112 0534 015	112 0534 038	112 0534 038	112 0534 028	112 0534 028
39	Front Panel	144 1976 404	144 1976 417	144 1976 404	144 1976 404	144 1976 404	144 1976 404
40	P. Knob (P) Ass'y	113 9213 000	113 9213 026	113 9213 000	113 9213 000	113 9213 000	113 9213 000
41	Top Cover	102 0411 102	102 0411 115	102 0411 102	102 0411 102	102 0411 102	102 0411 102
43	Knob Ass'y (VR)	112 0532 004	112 0532 017	112 0532 004	112 0532 004	112 0532 004	112 0532 004
⚠ 50	AC Outlet (Polarized)	—	—	203 3926 007	203 3926 007	203 3926 007	—
51	Preset Label	—	—	—	—	515 8030 008	—
⚠ 52	Voltage Sel. Switch	—	—	—	—	212 9555 007	—
⚠ 53	Fuse (F502)	—	—	—	—	206 1061 015 (2.5A [250V])	—
54							
55							
56							
57							
SCREWS							
102	Tapping Screw (S) 3×8 Black	473 7015 018 (16)	473 7015 018 (16)	473 7015 018 (16)	473 7015 018 (16)	473 7015 018 (18)	473 7015 018 (16)
109	3P Swelling Screw	477 0263 005 (4)	477 0263 018 (4)	477 0263 005 (4)	477 0263 005 (4)	477 0263 005 (4)	477 0263 005 (4)
PACKING & ACCESSORIES							
210	Color Label (Gold)	—	513 9111 001 (2)	—	—	—	—
211	DAI Warranty Form	—	—	515 0418 107	—	—	—
212	DCI Warranty	—	—	—	515 0388 004	—	—

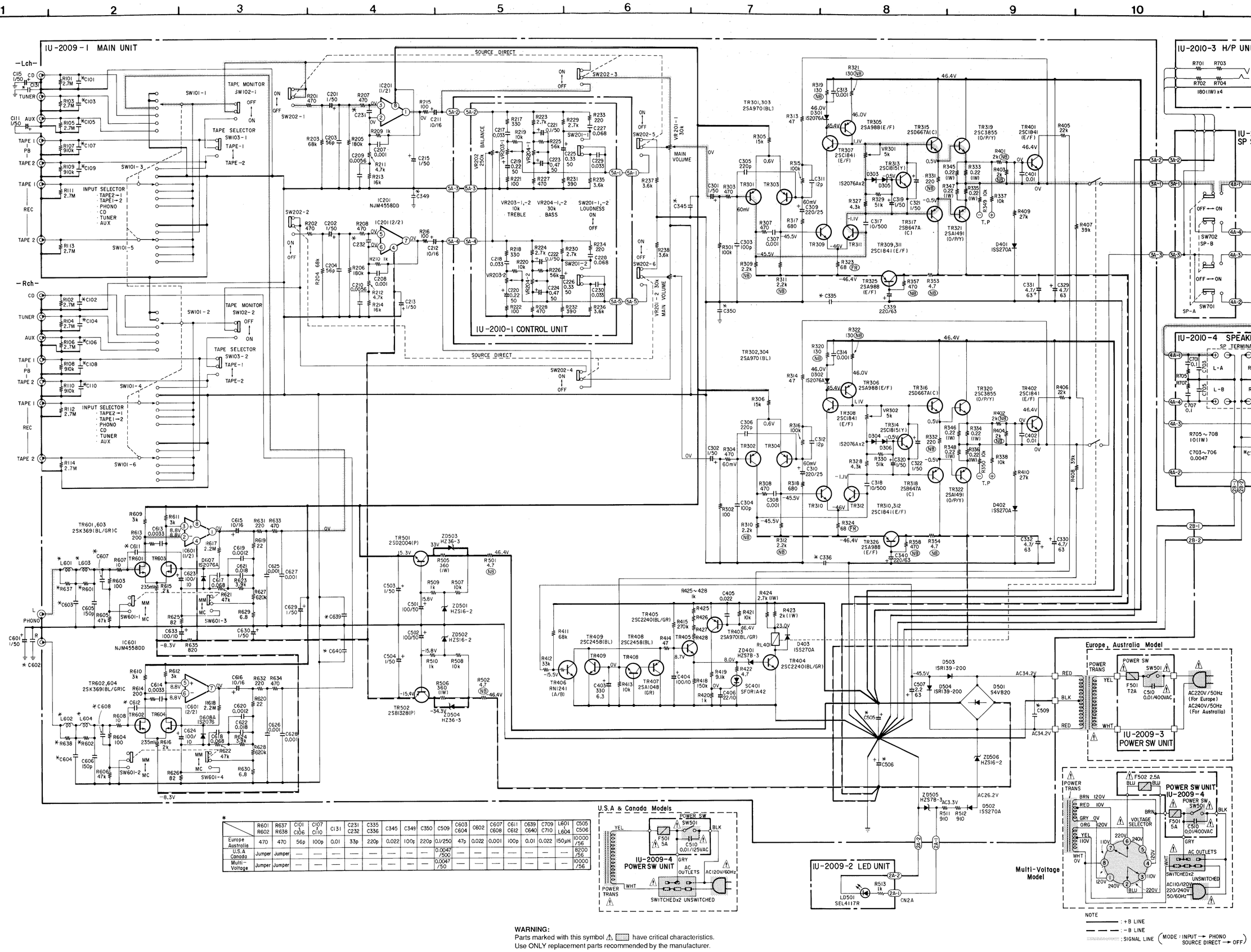
DENON

NIPPON COLUMBIA CO., LTD.

14-14, AKASAKA 4-CHOME, MINATO-KU, TOKYO 107-11, JAPAN
Telephone: 03 (584) 8111
Cable: NIPPONCOLUMBIA TOKYO Telex JAPANOLA J22591

Printed in Japan 002 BU 0187

SCHEMATIC DIAGRAM



*	R601 R602	R637 R638	C101 C106	C107 C110	C131	C231 C232	C335 C336	C345	C349	C350	C509	C603 C604	C602	C607 C608	C611 C612	C639 C640	C709 C710	L601 L604	C505 C506
Europe Australia	470	470	56p	100p	0.01	33p	220p	0.022	100p	220p	0.1/250	47p	0.022	0.001	100p	0.01	0.022	150μH	10000 /56
U.S.A Canada	Jumper	Jumper	—	—	—	—	—	—	—	—	0.0047 /500	—	—	—	—	—	—	—	8200 /56
Multi-Voltage	Jumper	Jumper	—	—	—	—	—	—	—	—	0.0047 /50	—	—	—	—	—	—	—	10000 /56

NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

NOTE
——— : +B LINE
– – – : –B LINE
▨▨▨▨▨ : SIGNAL LINE (MODE : INPUT → PHONO, SOURCE DIRECT → OFF)